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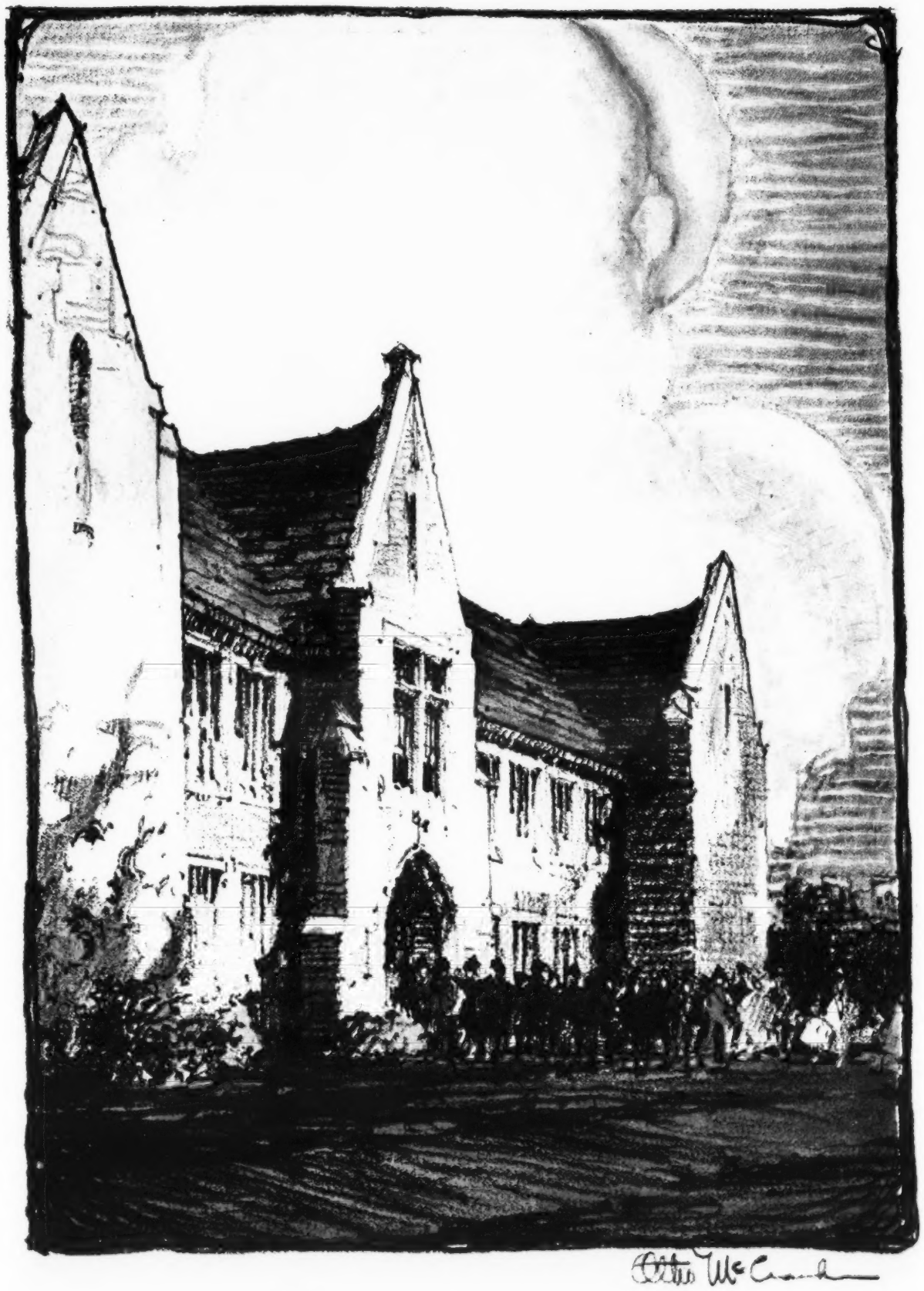
THE AMERICAN School Board Journal

A PERIODICAL of SCHOOL ADMINISTRATION

DEC 4 1929



December, 1929

THE BRUCE PUBLISHING COMPANY
CHICAGO MILWAUKEE, WIS. NEW YORK

In This Issue: Personal Qualifications of Janitors — *Ganders and Reeves*

Schools and institutions of all sorts must have closets that will stand years of hard use

That's why they are turning to the VOGEL SELFLUSH Number Ten Seat-Action Closet Combination which —

HAS a seat of air-seasoned golden oak, finished in hard, high gloss varnish.

HAS a heavy bowl of twice-fired vitreous china,

HAS a tank tested to 100 pounds air and water pressure.

HAS a valve that will never wear out because all moving parts are made of a special grade of bronze.

Can be furnished with open front seat and in juvenile height bowl.

And the Vogel closet is made by a concern that has specialized in seat-action closets for longer than 20 years. Complete specification and description—also roughing-in measurements — for Vogel Selflush Closets will be forwarded promptly upon request.

JOSEPH A. VOGEL COMPANY

Wilmington, Del. **St. Louis, Mo.**

Tank can be concealed in the wall

• • VOGEL PATENTED *Products* • •

IN ALL FAIRNESS TO YOURSELF

Read this Statement

We ask you to specify *"Pyramid"* brand slate, and why? What is in a trade-mark? Here is the answer . . . Standing as a pioneer in the field of blackboards, we are proud of a record of long satisfaction in material and service. Nothing but the best is ever used for *"Pyramid"* Blackboards. We could not make this statement but for the fact that we stand as the largest producers in the country. Tremendous production and modern facilities mean your protection, for a sale is but secondary to your satisfaction. When you say *"Pyramid"* you know you are getting the best in material, workmanship and service. Remember that the *"Pyramid"* trade-mark is not simply a means of identification, but *an absolute guarantee* of *quality, service & workmanship.*

Natural Slate Blackboard Company

1240 Robinson Ave., Pen Argyl, Pa.

Bon Homme College,
St. Louis, Mo.

High School,
Clayton, Mo.

To Get Results—

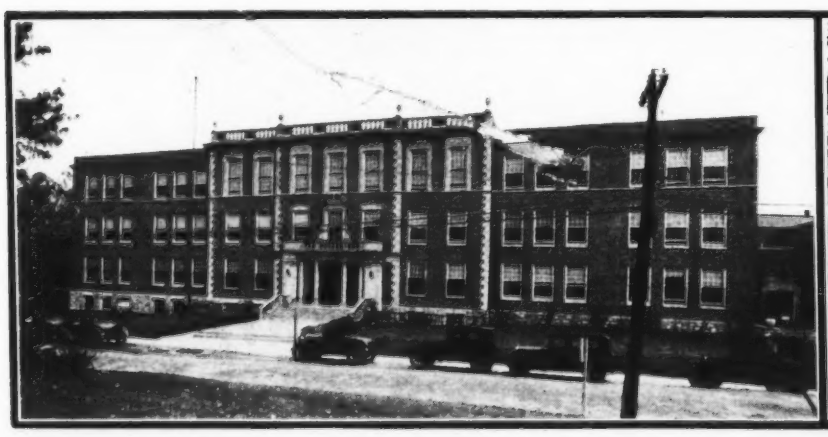
STANDARDIZE

on materials for cleaning

Cleansoleum for Woodwork and Walls.
Porcelain Cleaner for Drinking Fountains.
Pine Cleanser for Toilet Rooms.
Scrubbing Compound for Wood Floors.
Tileoleum for Tile, Terrazzo and Marble
and other MIDLAND products, developed in 26 years of effort to make only the best materials available to you.

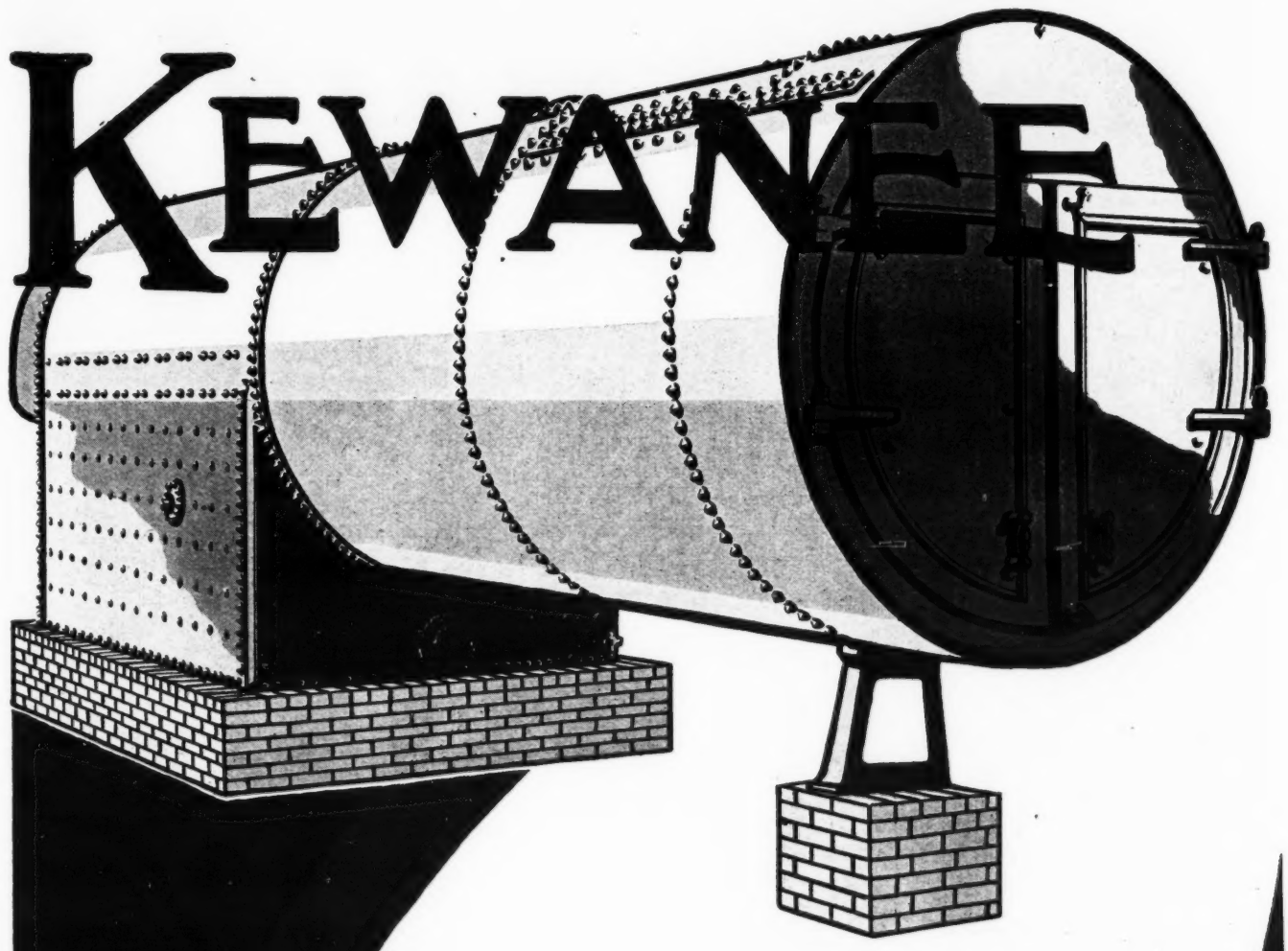
Midland Chemical Laboratories, Inc.

Dubuque, Iowa, U. S. A.



High School,
Webster Grove, Mo.

Jefferson High School,
East St. Louis, Mo.

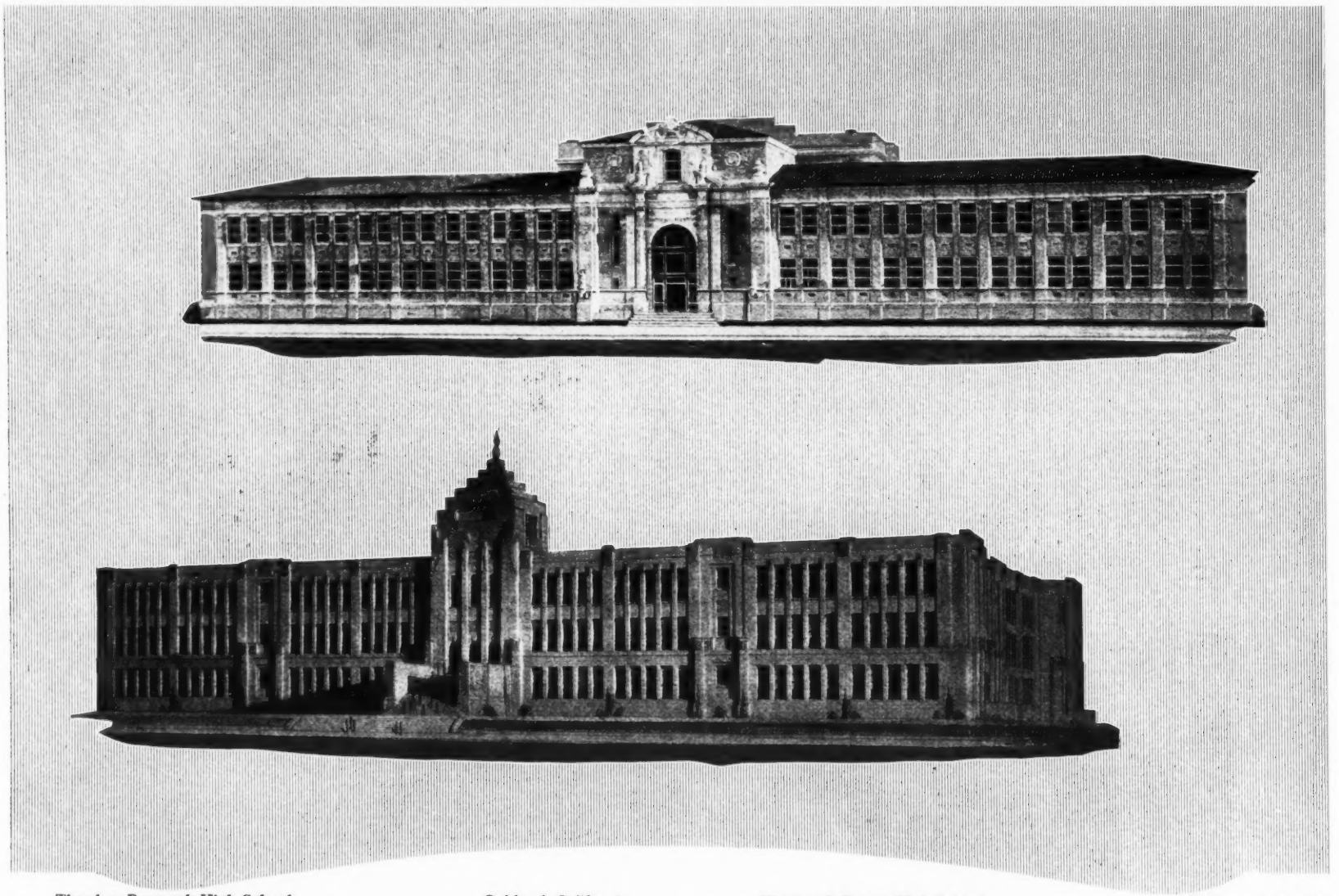


Two savings are built into every Kewanee Boiler . . .

The unusual strength and dependability of its steel-riveted construction adds many *extra* years to its life—reducing the cost-per-year-of-service to a very low figure.

And a Kewanee *saves fuel every year of its existence.* Boilers can be bought for less but they can't provide the same years of service, nor the same economy in the use of fuel, so in the end they actually cost more.

KEWANEE BOILER CORPORATION
division of
American Radiator and Standard Sanitary Corporation
Kewanee, Illinois
Branches in 40 Principal Cities



Upper **Theodore Roosevelt High School** . . . . . **Oakland, California**
C. V. Dickinson, *Architect* . . . . . George Atkins, *Engineer*

Lower **Thomas Jefferson High School** . . . . . **Richmond, Virginia**
Charles M. Robinson, *School Architect*, ... Richmond

THE wide preference awarded Johnson Heat & Humidity Control evidences a valued utility and a leadership. School buildings in practically every state of the Union contain Johnson Control. The prominence of these structures and the prominence of the architects and engineers responsible for them and recommending Johnson Control is additionally significant.

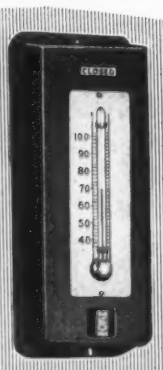
Johnson Heat & Humidity Control is fundamentally correct in design and installation: and totally reliable mechanically and in constancy of service. That is why Johnson Control is so universally specified.

The Johnson System consists of individual room thermostat and diaphragm operated valve or damper for each room to be controlled; and a compressed air system — all completely connected by small, concealed compressed air piping. Included, are thermostats for controlling the valves and dampers of a building's ventilating system, and humidostats for the control of the humidity. Johnson Control applies to every form and plan and system of heating and ventilating with marvelously efficient results — accurate temperature and humidity maintained, and fuel saving of 25 to 40% produced. Interesting Johnson Book of details sent on request.

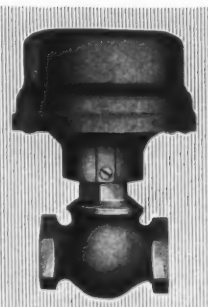
JOHNSON SERVICE CO. MILWAUKEE, WIS.
BRANCHES IN ALL PRINCIPAL CITIES

JOHNSON HEAT & HUMIDITY CONTROL

EST. 1885



THE ALL-PERFECT GRADUATED CONTROL OF VALVES AND DAMPERS.

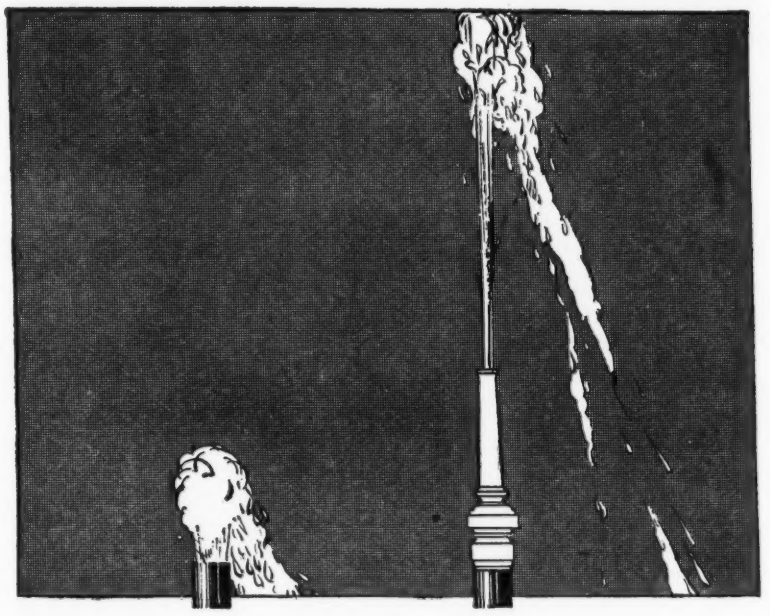


THE PERMANENTLY ENDURING, ALL-METAL SYSTEM.

THE DUAL THERMOSTAT (NIGHT & DAY) CONTROL.

The high velocity obtained in the stream of water from a fire hose by the use of a nozzle illustrates the Pacific side-connection principle. By confining rising steam and water to restricted outlets, forced circulation results.

Forced circulation in the Pacific



Why a nozzle on a fire hose? Necessity for velocity!

How do you get velocity? By reducing the diameter of the orifice!

A simple and well-known principle of hydraulics.

Apply this principle to the well-known fact that the ability of water to absorb heat from a surface is proportional to the velocity of flow of the water across that surface, and you have a picture of the positive circulation feature in the Pacific Steel Heating Boiler.

The Pacific side-connections do the work of the hose nozzle. The steam and hot water, instead of rising sluggishly through free waterways between the fire-box water-jacket and the shell (as in other boilers), is shot up through properly proportioned connecting orifices into the shell and across the boiler tubes at a high velocity.

PACIFIC

STEEL HEATING BOILERS

AND CAPITOL RADIATORS MAKE A LOGICAL COMBINATION

Result: Steam bubbles that form on and insulate the tubes are "scrubbed" off by this forced circulation. A greater amount of heat is thus absorbed by the water.

There is a Pacific installation for your next building which will give you the maximum in fuel economy with greatest ease in maintenance. Write for literature on all types of installations.

PACIFIC STEEL BOILER CORPORATION
Factories: Waukegan, Ill., Bristol, Pa.
Sales Offices in 58 Cities
Division of United States Boiler Corp., Detroit, Mich.

Von Duprin

Self-Releasing Fire and Panic Exit Latches

How to Get What You Want

Whenever you ask your architect to specify Von Duprin latches for a building, you expect genuine Von Duprins to be delivered. It goes without saying that you get what is specified in nearly every instance. There should be no trouble about getting genuine Von Duprin latches, since all reputable hardware dealers can buy them—at the same fair prices. But there have come to our attention isolated cases in which Von Duprin latches have been

made an item of the finishing hardware specifications, only to have the occasional unscrupulous dealer take advantage of that form of specification to substitute other devices as part of the finishing hardware contract.

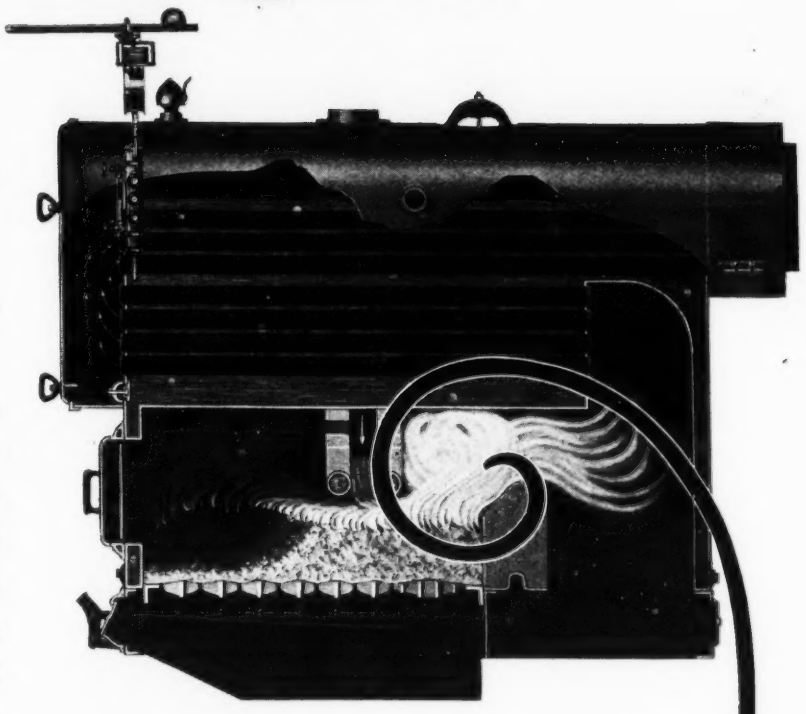
The safe way is to suggest to your architect that he make panic devices a separate item of the specifications, and—of course—specify the devices by name.

Your request will bring the Von Duprin catalog by return mail.

VONNEGUT HARDWARE CO.
Indianapolis, Ind.

Listed as Standard by Underwriters Laboratories

No Smoke Passes This Whirlpool!

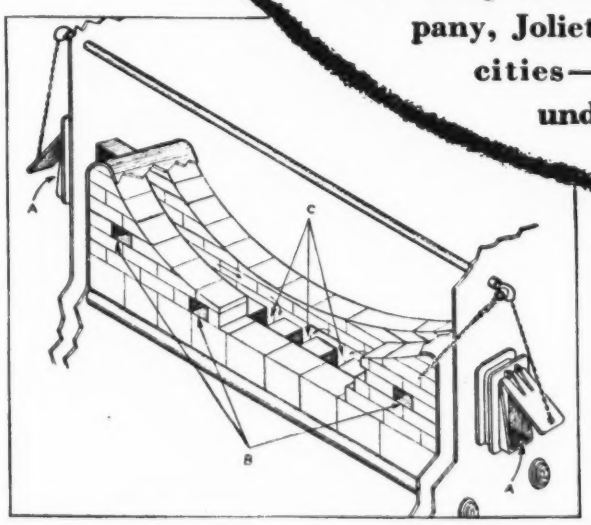


Like dry tinder—the soot laden gases of soft coal ignite the instant they strike this turbulent whirling mass of incandescent flame!

They burn and their usable heat units are utilized—because in this new Heggie-Simplex Smokeless Boiler there is always the right amount of oxygen to effect complete combustion. The additional oxygen necessary to burn bituminous coal smokelessly, but which can not be drawn through the fuel bed alone, is introduced through a special "carbureting chamber" over the fire.

Built of refractories, this chamber not only introduces the necessary additional oxygen but thoroughly heats it before passing it down onto the fire. A refractory bridge wall to the rear of this chamber baffles the fire, creating a whirlpool of flame which consumes all of the smoke and combustibles.

For complete facts, write Heggie-Simplex Boiler Company, Joliet, Ill.; representatives in principal cities—telephone and address listed under "Heggie-Simplex Boilers."



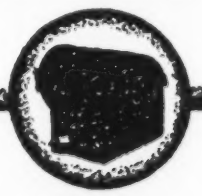
The "Carbureting Chamber" of the Heggie-Simplex Smokeless Boiler

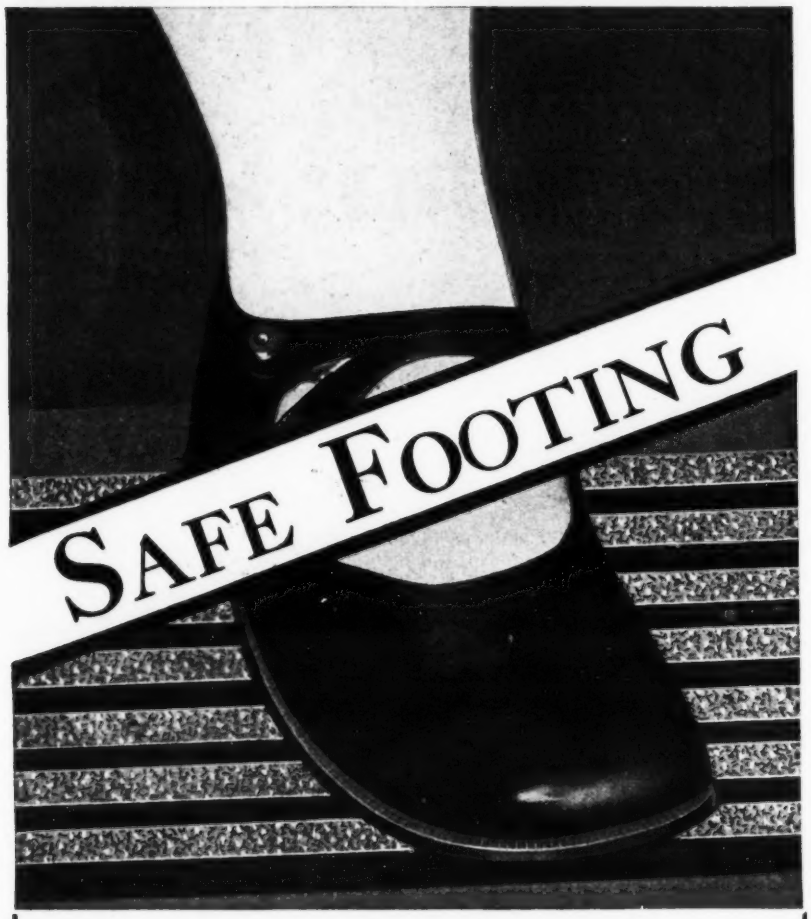
Air is drawn in through intake doors (A) on both sides of the boiler. Volatiles arising from the fresh fuel are admitted through ports (B) in the forward wall. This inflammable mixture is thoroughly heated by the hot refractory walls of the chamber. It is ready for instant combustion when it passes through the jets (C) to mix with the gas stream flowing under the chamber.

Note there are no bothersome ceiling pulleys, long chains, etc. The operating device is "built in" the boiler.

HEGGIE-SIMPLEX

STEEL HEATING BOILERS

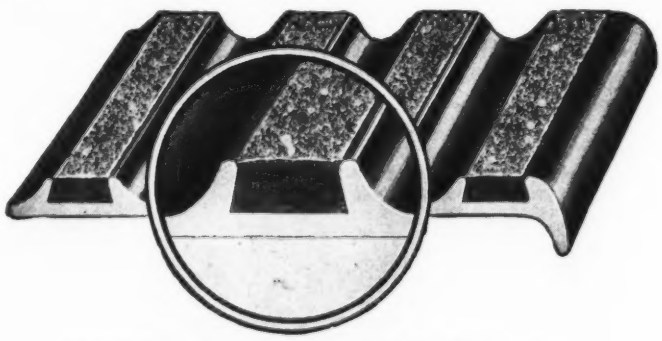




For Careless Little Feet...

SCHOOL stairs that are worn or slippery present a constant hazard to the multitude of little feet that use them. Wooster Safe-Groove Stair Treads provide safe footing for the tens of thousands of youthful feet that trudge or scurry up and down stairs daily, in schools everywhere in the country.

Slipping and falling accidents in schools are common, and frequently of too serious consequence, to dispense with this protection. Deep narrow grooves, and wide abrasive ribs insure the very maximum of safe traction. Wooster Treads protect the stairs from disfiguring wear and add to their appearance. Write today for complete details.



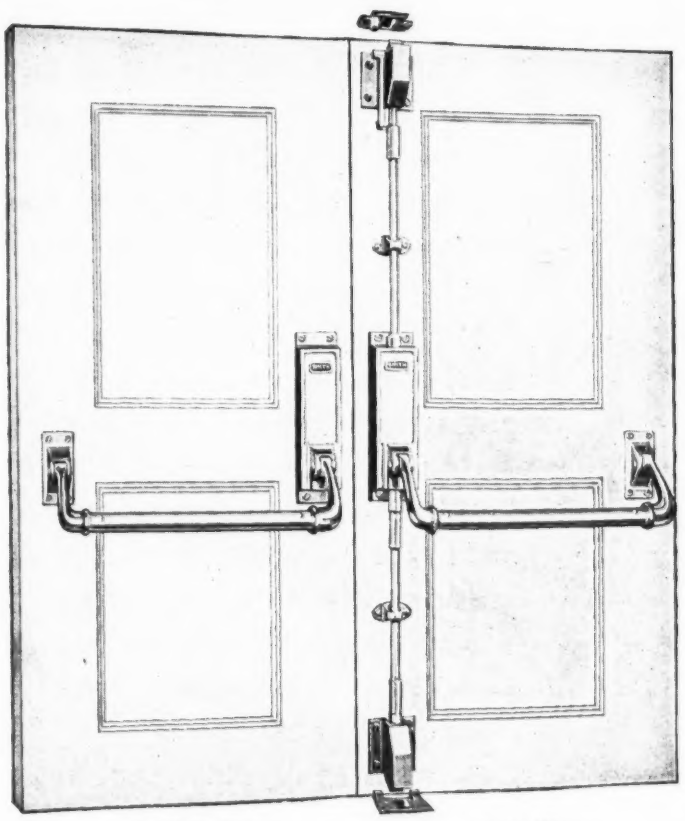
WOOSTER PRODUCTS Inc.
Successor to
THE SAFETY STAIR TREAD CO.
P. O. Box 198 C Wooster, Ohio

WOOSTER
SAFE—GROOVE STAIR TREAD

SMITH'S IMPROVED PANIC EXIT LOCKS

NO. 80 LINE

Gravity Panic Exit Bolts



Inside View Has Outside Trim. *Inside View No Outside Trim.*

Bolts are operated by a slight pressure on the Cross Bar.

Bolts are not dependent on springs for opening or closing operation.

Simple but sturdy in construction and easily installed.

Will operate perfectly in connection with standard makes of door closers.

Catalogue No. 30 with Supplement "A" sent on request..

Manufactured by

THE STEFFENS-AMBERG CO.
260-270 Morris Ave.
NEWARK, N. J.

Our Contribution
to the art of Heating & Ventilation

SIX YEARS AGO when the Herman Nelson light weight, compact, indestructible radiator was placed on the market, it was immediately accepted as the greatest advance in the art of Heating and Ventilation in a generation. It has made possible heating and ventilation dependability and performance hitherto unattainable.

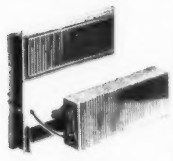
The Herman Nelson Wedge Core Radiator is an exclusive feature of all Herman Nelson Heating and Ventilating Products and accounts for their unequaled performance.

HEATING · VENTILATING · COOLING · DRYING · CONDENSING

UNIVENT

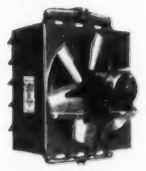
for the ventilation of schools, hospitals, offices and other buildings presenting an acute ventilating problem.

HERMAN NELSON
Invisible
RADIATOR



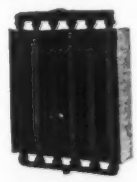
. . supersedes all previous radiators, radiator cabinets or enclosures. Occupies no room space and makes possible any desired decorative scheme or furniture arrangement. Indestructible in service.

THE HERMAN NELSON
hiJet
HEATER



It operates at steam pressures from 1 to 150 lbs., and offers the better and more economical way of diffusing heat in Factories, Railroad Shops, Roundhouses, Mills, Warehouses, Garages, Gymnasiums and Industrial Buildings.

Herman Nelson
Radiator Sections
for Blast Heating and Cooling



Indestructible, operating at any steam pressure from 1 to 150 lbs., non-corrosive and leak-proof.

May be arranged in banks to solve any special problem of heating or cooling.

THE HERMAN NELSON CORPORATION · *Moline, Illinois*

Builders of Successful Heating and Ventilating Equipment for over 20 Years

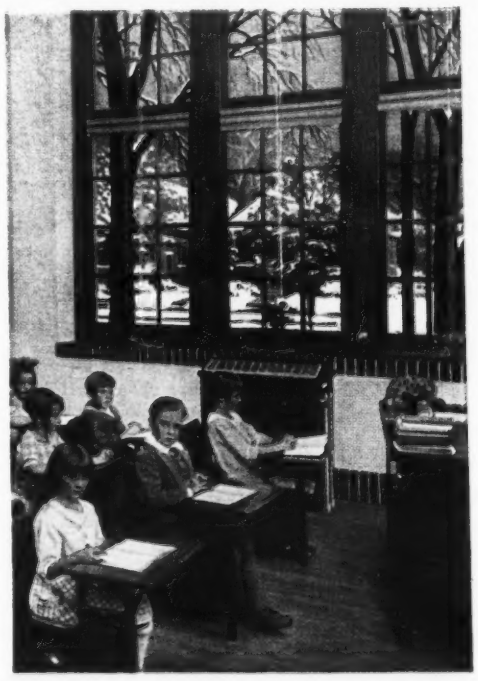
Sales and Service

BELFAST, ME.	UTICA	SCRANTON	SAGINAW	CINCINNATI	DES MOINES	ST. LOUIS	DALLAS	SALT LAKE CITY	SAN FRANCISCO
BOSTON	BUFFALO	PITTSBURGH	DETROIT	TOLEDO	MILWAUKEE	BIRMINGHAM	OMAHA	SPOKANE	VANCOUVER
PROVIDENCE	PHILADELPHIA	CHARLOTTE, N. C.	CLEVELAND	INDIANAPOLIS	GREEN BAY	ATLANTA	EMPORIA	PORTLAND	TORONTO
NEW YORK CITY	WASHINGTON, D.C.	GRAND RAPIDS	COLUMBUS	CHICAGO	MINNEAPOLIS	MEMPHIS	KANSAS CITY	SPATTLE	WINNIPEG, MAN.
							DENVER		

UNIVENT VENTILATION often imitated but never duplicated

THE Univent, itself, is a complete individual ventilating machine, for drawing fresh air directly from out-of-doors—cleaning it—warming it to a comfortable temperature—and silently delivering it in such a manner that there is an agreeable air motion—but without drafts.

Today, thanks to the Univent, the principle of unit ventilation is nationally recognized. Naturally, many manufacturers are seeking to supply the market the Univent has created. But mark this. The results brought by Univent Ventilation are due to exclusive features of the Univent itself. They may be imitated but *cannot* be duplicated in other unit ventilators. Where the health, energy and mental efficiency of our children is at stake, ventilation should be purchased on proven results. To realize the epochal results of the Univent system, one need only refer to School Executives, Architects and Engineers everywhere who endorse it as the best, simplest and most economical.



UNIVENT VENTILATION

Write for our book "Univent Ventilation No. 29"

Univent *and* Glass *make the difference*

THE HERMAN NELSON CORPORATION · *Moline, Illinois*

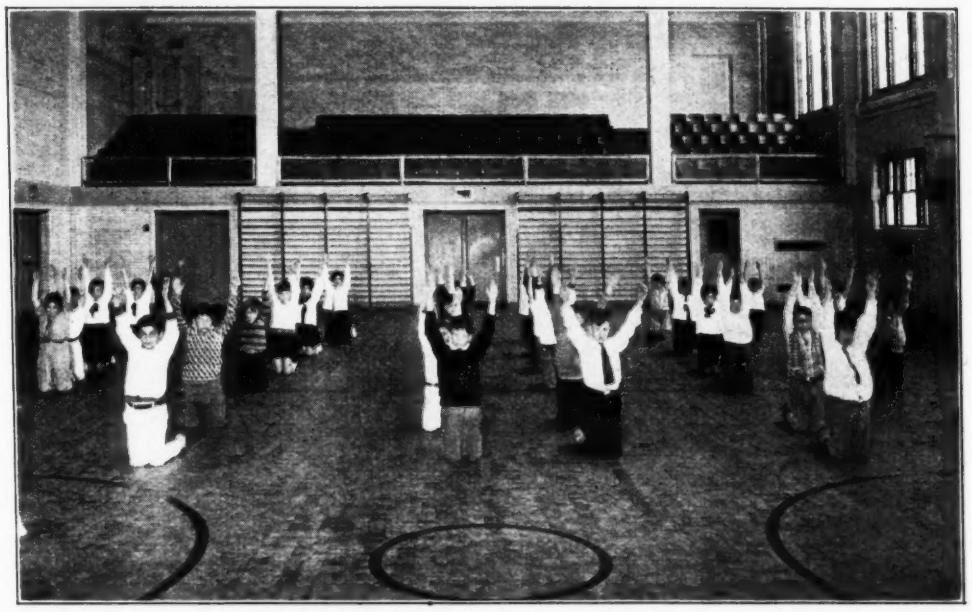
Builders of Successful Heating and Ventilating Equipment for over 20 Years

Sales and Service

BELFAST, ME.	BUFFALO	CHARLOTTE, N. C.	COLUMBUS	DES MOINES	BIRMINGHAM	KANSAS CITY	SEATTLE
BOSTON	PHILADELPHIA	GRAND RAPIDS	CINCINNATI	MILWAUKEE	ATLANTA	DENVER	SAN FRANCISCO
PROVIDENCE	WASHINGTON, D.C.	SAGINAW	TOLEDO	GREEN BAY	MEMPHIS	SALT LAKE CITY	VANCOUVER
NEW YORK CITY	SCRANTON	DETROIT	INDIANAPOLIS	MINNEAPOLIS	DALLAS	SPOKANE	TORONTO
UTICA	PITTSBURGH	CLEVELAND	CHICAGO	ST. LOUIS	OMAHA	PORTLAND	WINNIPEG, MAN.
					EMPORIA		

BLOXONEND FLOORING IS NON-SLIP AND NON-SLIVER

Safe!



Gymnasium, Vine Street School, Hartford, Conn., floored with BLOXONEND. I. A. Allen, Jr., Inc., Architects. The end-grain fibres form the surface of a Bloxonend floor.

BLOX-ON-END FLOORING

In shop service Bloxonend is laid directly over wood floated slab. In gymnasiums it is usually laid over 1x4 floor strips (for utmost resilience).

This flooring material gives you every advantage of other wood floors with the added advantage of SAFETY. Bloxonend presents an *end-grain* instead of a *flat-* or *edge-grain* wearing surface. This construction absolutely eliminates the possibility of slivers and assures a non-slip surface.

Bloxonend is a handsome floor. It is fast, resilient and comfortable under foot. It lasts a life time and stays smooth. Nearly all prominent school architects specify Bloxonend for the gymnasiums and shops of finer type buildings. If it is not included in the specifications for your new school, write for free descriptive booklet and sample. The winter holidays afford an ideal time to replace worn floors with Bloxonend.

CARTER BLOXONEND FLOORING COMPANY

Kansas City, Missouri

Representatives in Leading Cities

BLOX-ON-END FLOORING

Bloxonend is made of Southern Pine with the tough end grain up. It comes in 8 ft. lengths with the blocks dovetailed endwise onto baseboards

Lays Smooth
Stays Smooth

Above: Coldwell "L-Twin" Motor Lawn Mower and Roller. Mows and rolls, simultaneously, 4 to 6 acres a day. With gang units attached, machine cuts 10 acres a day on one gallon of gasoline.

Power lawn mowers which exemplify COLDWELL leadership

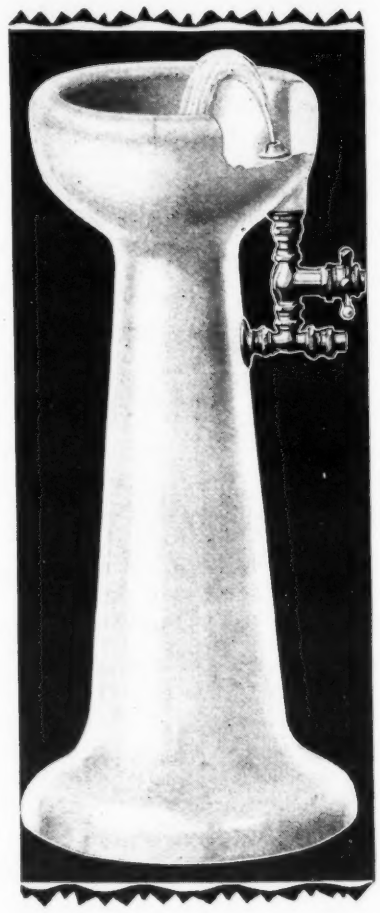
TYPIFYING the leadership that has identified Coldwell Power Lawn Mowers for over thirty years, the new Coldwell Motor Lawn Mowers and Rollers embody a wonderful new order of power, dependability and economy of operation unapproached by any other grass-cutting unit.

There's a Coldwell Lawn Mower to suit the requirements of schools, colleges, institutions, etc. Literature describing the full Coldwell line will be sent on request.

HAND — HORSE — SINCE 1862 COLDWELL — GASOLINE — ELECTRIC

DEPENDABLE LAWN MOWERS

COLDWELL LAWN MOWER COMPANY, NEWBURGH, N.Y., U.S.A.



The Accepted "Bubbler"

FROM every angle the R-S drinking fountain is unparalleled. Besides furnishing clean, fresh, water—each drink is a sanitary one.

Because of its special design it prevents lips from touching the nozzle—contamination is automatically eliminated.

The R-S line includes Sanitary Drinking Fountains, Bath and Plumbing Fixtures and Supplies.

Write for illustrated catalog.

⚜ ⚜ ⚜

Rundle-Spence Mfg. Co.

51-4th Street
MILWAUKEE, WIS.

IF YOU BUY WINDOW SHADES

read this message from Columbia

THE NEUROLOGICAL HOSPITAL, New York City, is fully equipped with *Columbia* Window Shades. *Architect. James Gamble Rogers. Contractor: Marc Eidlitz & Son, Inc., New York.*

GUESSWORK should have no place in your window shade specifications. You want the finest, most economical shades your budget will permit.

This means *Columbia* Window Shades.

You can verify this if you will take the time to investigate them thoroughly.

Compare their record of honest service, long life and fine appearance with any window shade you have ever considered buying.

1. Make your own tests, no matter how severe, of the *Columbia* Roller for long life and reserve power.

2. Inspect *Columbia* Shade Cloth as carefully as you wish. We are proud of the fine materials and the thorough inspection we make at every stage of manufacture. For the result is—flawless, long-wearing shade cloth.

Before specifying or purchasing window shades, read the *Columbia* Window Shade Data Book and then you'll know what to look for in window shades. It's free—use the coupon below.

The *Columbia* Mills, Inc. 225 Fifth Ave., New York

Baltimore Boston Chicago Cincinnati Cleveland Dallas Denver Detroit Fresno Kansas City Los Angeles Minneapolis New Orleans Philadelphia Pittsburgh Portland (Ore.) Salt Lake City San Francisco St. Louis Seattle

Columbia

GUARANTEED

WINDOW SHADES *and* ROLLERS

Send for your Copy of "Window Shades"

This interesting book tells all about window shades, window shade rollers and roller brackets, approved methods of hanging window shades and suggests the most suitable type of shade for each kind of building. It also contains the useful "Standard Specification for Window Shades." For your copy mail the coupon to The *Columbia* Mills, Inc., 225 Fifth Avenue, New York City.

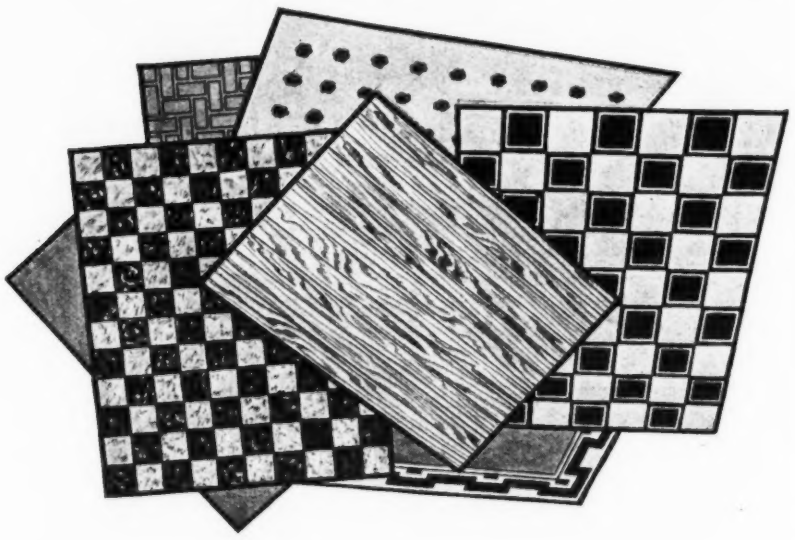
Name.....

Street.....

City..... AS 12-29

Nationally Advertised—Used Everywhere in Beautiful Homes

GOOD FLOORS COST MONEY



Keep them *beautiful, clean and new*

NEW school buildings are equipped almost lavishly with every aid to education and sanitation. Floors are of the most modern type—hardwood for gymnasiums, rubber tile or mastic for corridors, composition for classrooms, linoleum for offices.

For each there is a *best* way to keep them new looking, long wearing, and protect the investment in them.

Whatever the floor, whatever the treatment, the FINNELL Scrubber-Polisher is the most scientific, up-to-date and reliable method to use.

Have your floor needs analyzed. The right sort of preservative—the correct cleaning preparation may make a difference of years in the life of floors and floor coverings.

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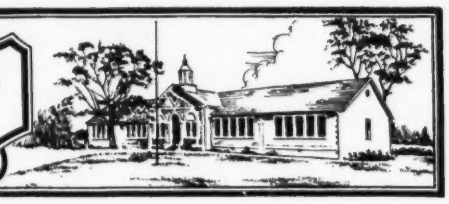

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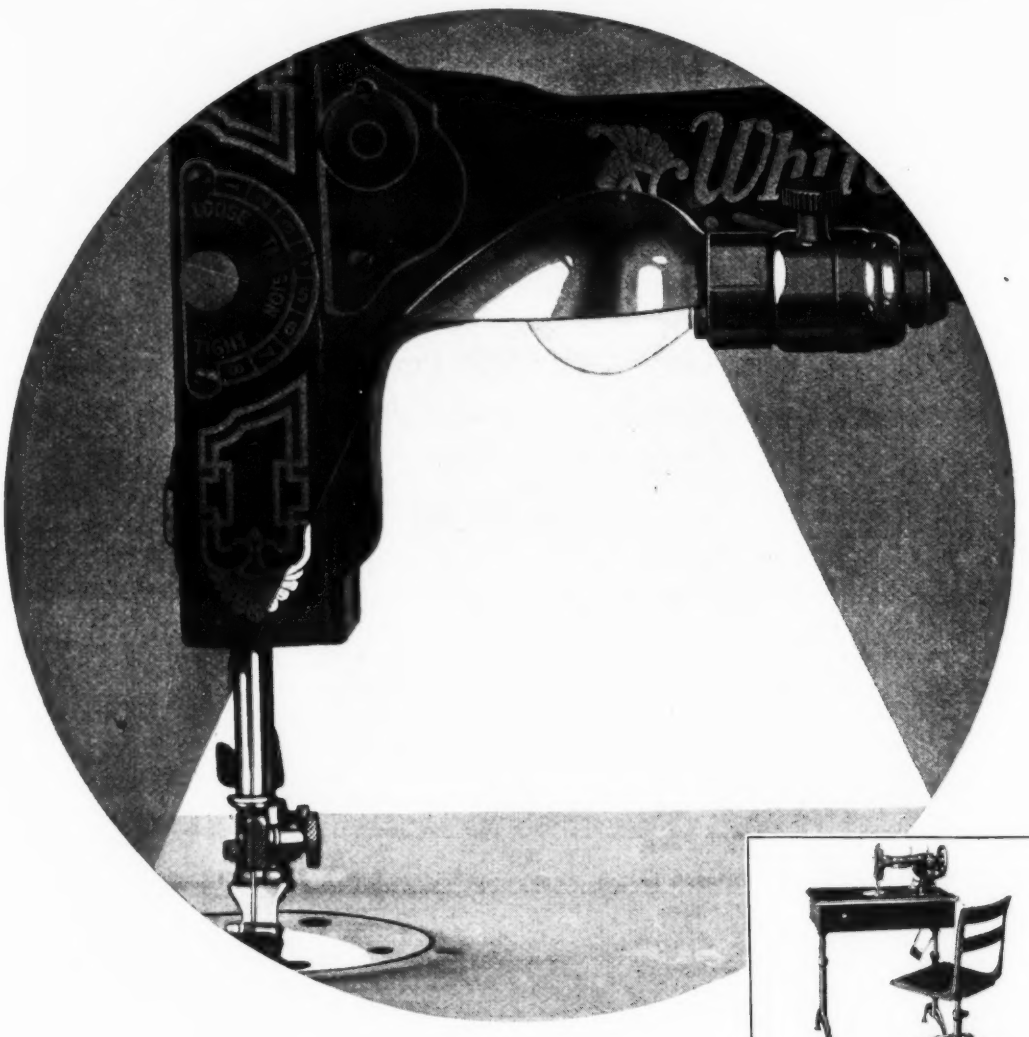

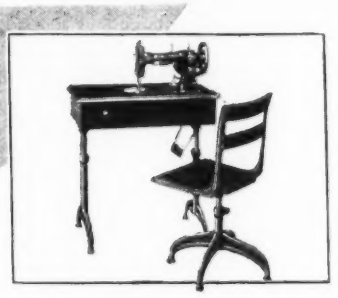

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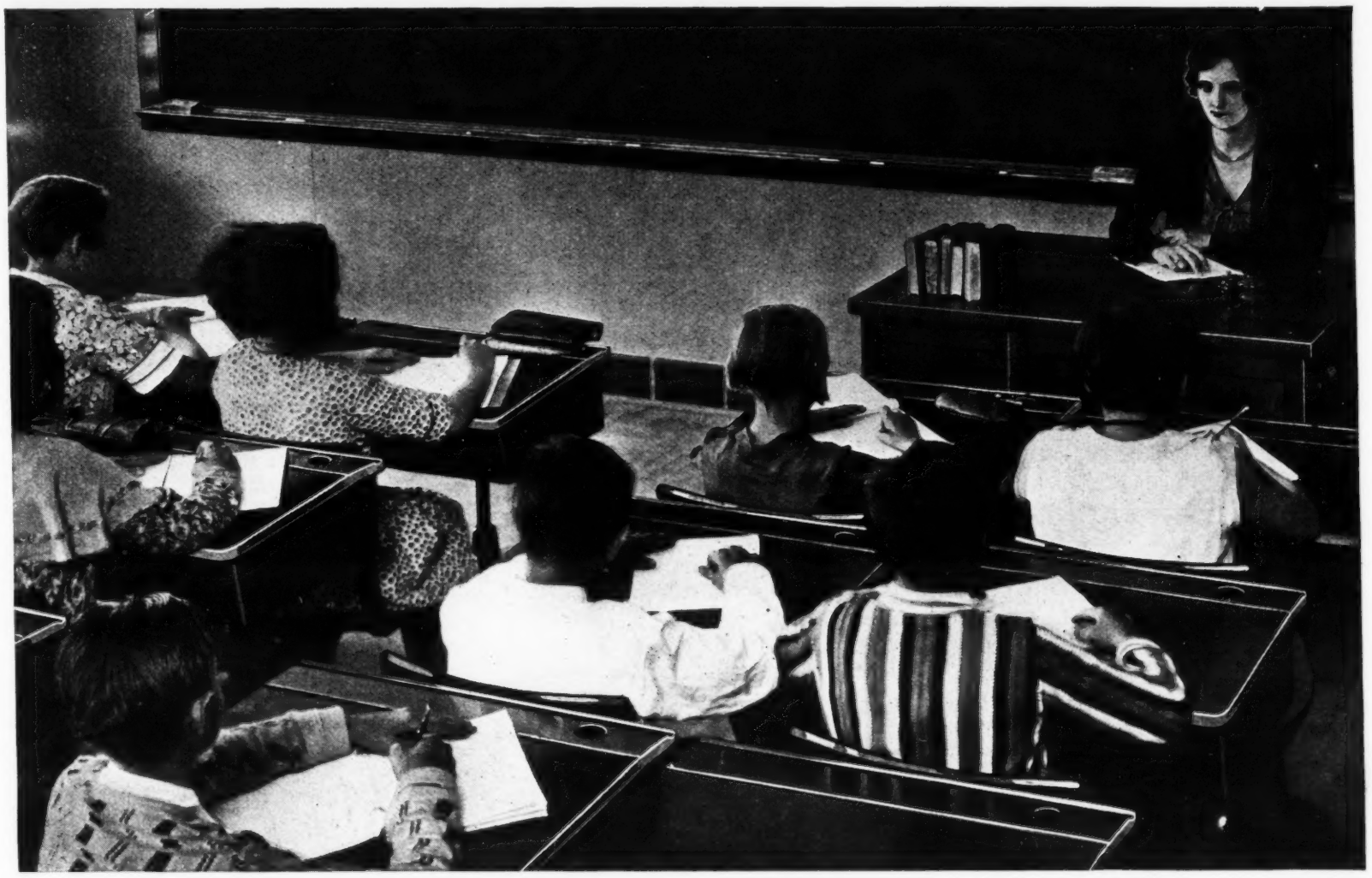

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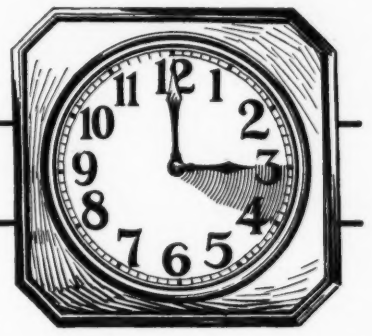

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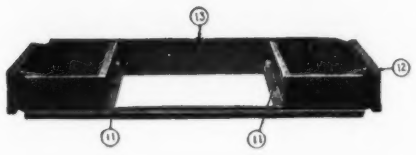

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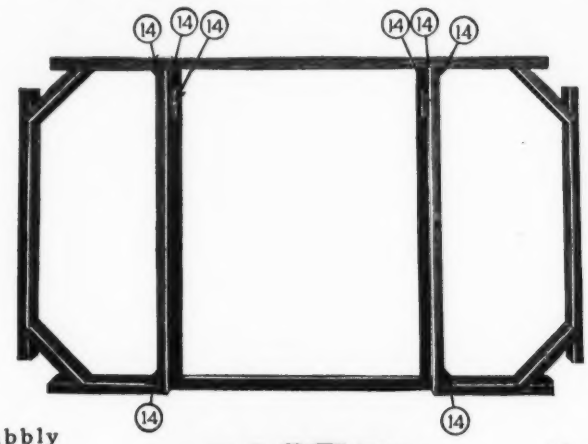

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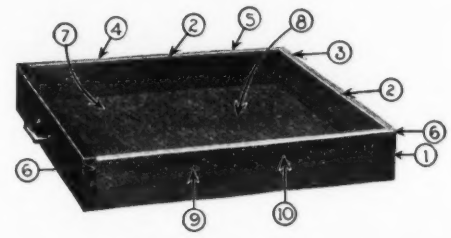

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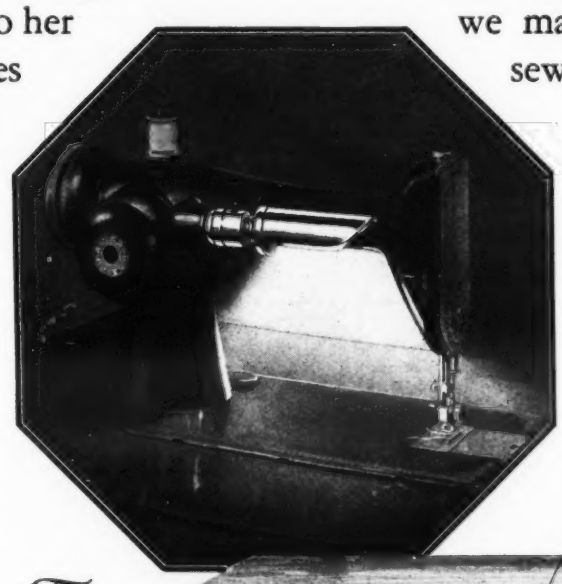

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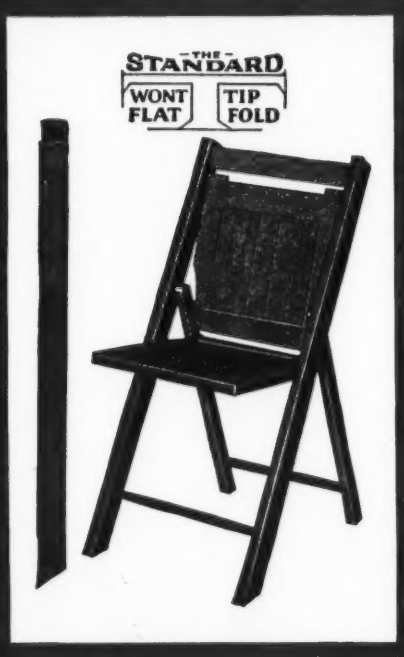

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STANDARD

AS shown in the illustration to the left, the No. 44 Standard Folding Chair folds perfectly flat. Thus quite a number of chairs can be stacked where previously there were only a few. The resultant economy of space makes it advisable to buy chairs that stack flat.

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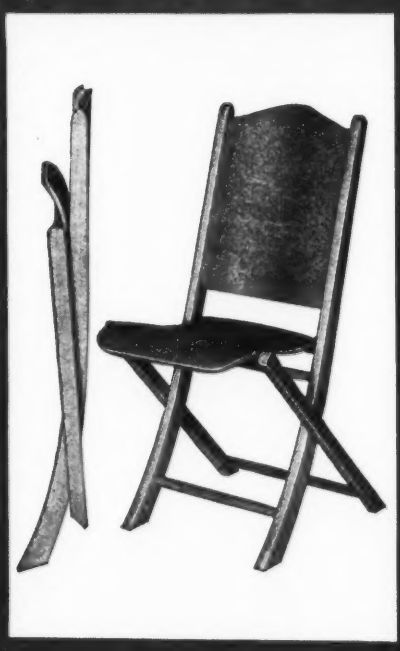

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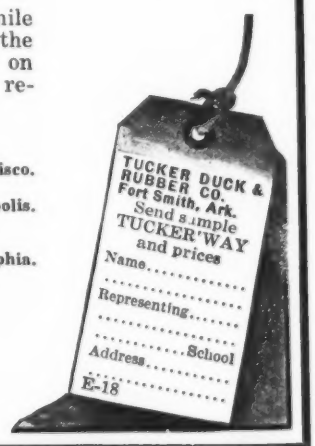

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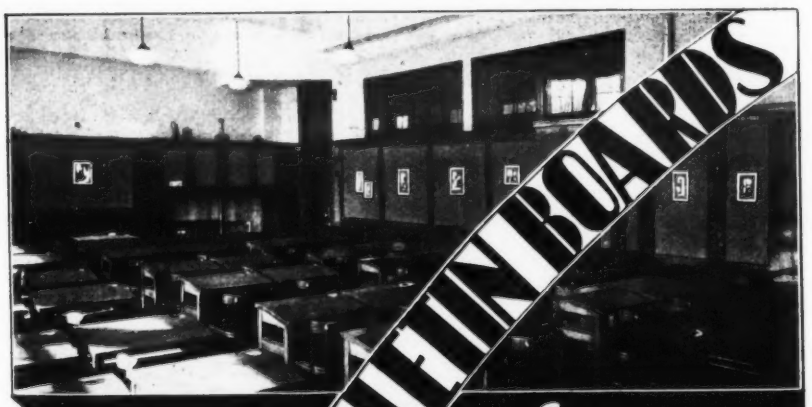

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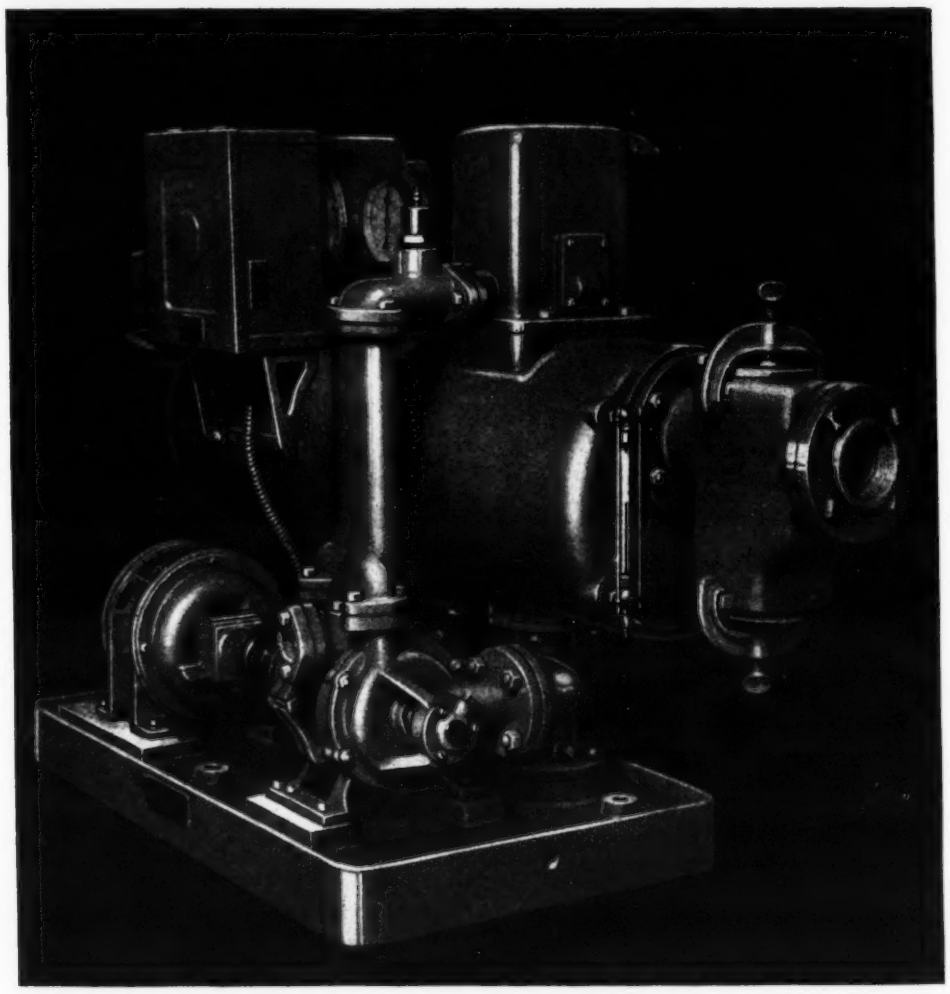

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VOL. 79
No. 6

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DECEMBER
1929

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TABLE OF CONTENTS

Cartoon: Wanted: Uniformity of Recording Systems!..... 31
Harold Heaton
Superintendent Standard's First Principles for Teacher Selection..... 32
V. H. Culp
Are Mental Tests in the Schools Democratic?..... 33
John Dixon
Relation of a School Board to Its Superintendent..... 34
C. M. Osterheld
The Personal Qualities of School Janitor-Engineers—II..... 35
Harry S. Ganders and Charles E. Reeves
Contracting for Schoolhouse Equipment..... 37
Anonymous
The Fowlerville High-School Union..... 38
H. D. Douglass
The Duties of Public-School Administrators—VIII..... 39
Fred C. Ayer
Getting Research Into Practice in a Large School System..... 41
John L. Stenquist
The Legal Aspects of the Rights and Powers of School Officials With Respect to Taxation..... 43
Wayne Soper
Educational Specifications for School Buildings..... 44
George F. Womrath
The Payroll Procedure for the Public-School System..... 45
Leonard L. Bowman
What the School Clerk Does..... 47
Worth McClure
School Buildings for Smaller Communities..... 49
Warren S. Holmes
Cleveland's Projected School Headquarters..... 55
The Campbell Open-Window School for Delicate Children..... 55
Milwaukee Beautifies Its School Buildings..... 56
A. G. Pelikan
Stimulating the Growth of Teachers in Service..... 57
Walter R. Hepner
The Relationship of the Superintendent and Principal..... 58
The Progress of Hearing Tests in American Schools..... 59
Harvey Fletcher
The Illinois School-Board Association Holds Helpful Meeting..... 62
Teachers' Resignations—How Marion, Iowa, Is Attempting to Solve the Problem... 66
C. B. Vernon
Standards for Stairways, Corridors, and Exits in Elementary-School Buildings.... 82
Samuel A. Challman
Index of School-Bond Prices..... 115
Harold F. Clark

EDITORIALS:

Enlisting Desirable School-Board Memberships..... 60
The Modern Trend in School Legislation..... 60
How Politics May Embarrass a School System..... 60
Is There True Sportsmanship in School Administration?..... 60
Majority Factions in School-Board Deliberation..... 61
School-Board Members Financially Interested in School Contracts..... 61
Shall High-School Auditoriums Exact Rental Charges?..... 61

School-Law Notes 68
New Rules and Regulations..... 71
Building News of the Schools..... 76
Teachers' Salaries 88
Playgrounds Do Not Reduce Land Values 91
School Administration Notes..... 92
School Finance and Building..... 99
Personal News of School Officials..... 102
Washington Correspondence..... 108
A. C. Monahan
Teachers and Administration..... 110
Chicago Correspondence 112
Book News and Reviews..... 134
A Remarkable School Survey..... 139
After the Meeting..... 154
Buyers' News..... 154

Whom Does Advertising Serve Most?

Manufacturers and merchants employ advertising in order to sell more products. The consumer thereby learns what he may buy. The publication becomes the medium—the salesman, if you will—between seller and buyer.

The producer and distributor must have a profit on what they sell. The publisher must be compensated. How about the consumer? Does he, who pays for both product and advertising, receive a compensation?

The answer is decidedly in the affirmative. The bulk of the cost of any article purchased consists of the raw material and the labor involved. The profit which must come out of the number of articles purchased may be quite small on any one separate article. The advertising may have stimulated the sale of many articles, making the share paid by one consumer quite infinitesimal.

But the advertising pages frequently carry a fund of information which may be of indirect, as well as direct, value to the prospective purchaser.

Among recent letters received by the editor, the following appeared: "During our building campaign we found advertisements contained in the AMERICAN SCHOOL BOARD JOURNAL very valuable to us. The publication has a fund of valuable information in that capacity." The sentence was written by W. L. Rohn, supervising principal of North Wildwood, New Jersey.

If the consumer has been well served it is because the producer, distributor, and publisher have each in turn contributed their share to that service. In this instance, the consumer is the school system entrusted with the sacred task of training the youth of the land for American citizenship.

What finer objective can come to those who engage in producing and marketing useful things in order to promote the progress of popular education?

The Editor.

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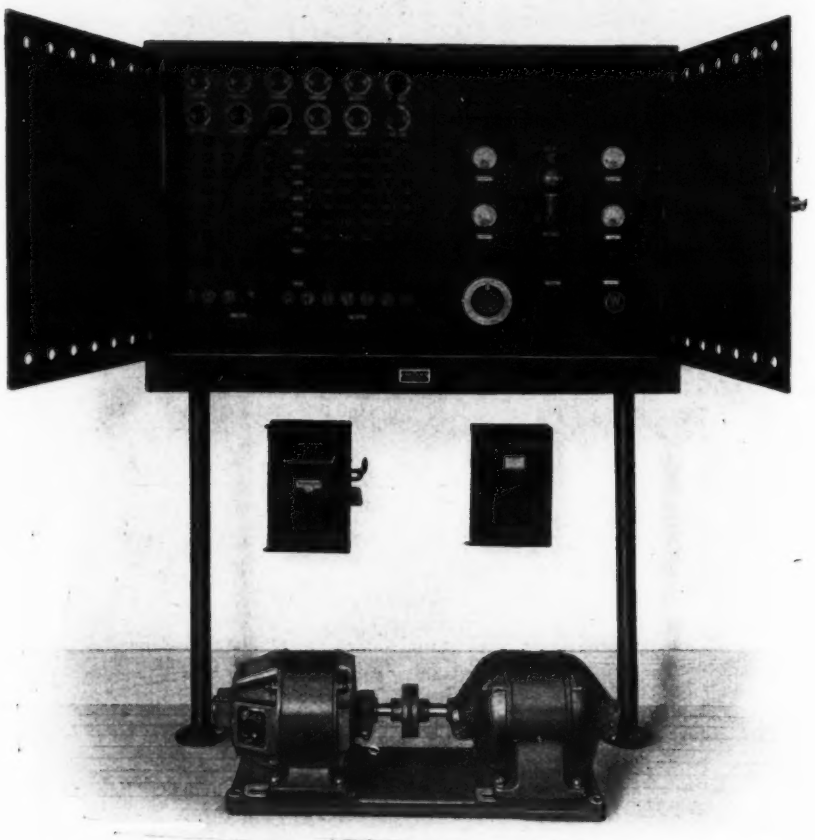
Editorial Material—Manuscripts and photographs bearing on school administration, superintendence, school architecture, and related topics are solicited, and will be paid for upon publication. Contributions should be mailed to Milwaukee direct, and should be accompanied by stamps for return, if unavailable. Open letters to the editor must in all cases contain the name and address of the writer, not necessarily for publication, but as evidence of good faith.

The contents of this issue are listed in the *Education Index* and *Current Magazine Contents.*



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"STANDARD MAKES EVERY MINUTE COUNT"

THE AMERICAN
School Board Journal

Founded March, 1891, by WILLIAM GEORGE BRUCE

Volume 79, No. 6 | DECEMBER, 1929 | Subscription, $3.00 the Year

Wanted: Uniformity of Recording Systems!

Superintendent Standard's First Principles for Teacher Selection

V. H. Culp, Professor of Education, Northern State Teachers College, Aberdeen, South Dakota

The school board had met in regular session and had ground out the usual grist of bills. The six men were sitting back in various relaxed attitudes that reflected the peacefulness of the gathering, the evident enjoyment of the responsibility of office — and the fragrance of good cigars.

Just as the meeting was about to adjourn to the near-by Elks' clubhouse, the contractor of the new Roosevelt School made a belated appearance. The presiding officer turned to the builder and inquired: "Do you have any reports on your wandering merchandise?" "Gentlemen, I am happy to report that the lost is no longer lost. I can guarantee that the new building will be ready for acceptance by the first of March."

"Mr. Standard," said Mr. Green, who lived near the new school, "how many new teachers will we need when we open the new building?"

"We shall be able to make a few transfers and combinations, and as a result twelve new teachers will suffice."

"That will please the taxpayers," said Mr. Close, "and the editor of the Watchman can't howl about the board of education spending money like a lot of drunken sailors."

"Gentlemen," began Mr. Green, who was one of the new members, "I should like to recommend Miss Sylvia Green, my niece, for a position in the new school. She has just finished a course in the Northern State Teachers College. She's a fine girl and would like to come to the city. I think she has had a year or two of experience."

"Just a moment," interrupted Mr. Standard, "for the benefit of the new members of the board, I wish to give you some of the first principles of teacher selection. I hope to make my position very clear so there can be no doubt about the ethics of the matter. In the first place, I do not favor the employment of any of my relatives, or those of members of the board of education. Our motives might easily be misconstrued. We are public servants and have enough responsibility without carrying along a lot of relatives. The people will be more critical of our relatives, and too often such relatives expect additional privileges because of such connections. As you may know my daughter teaches at Park Hill. So long as I am superintendent of schools in Park Hill, I shall not recommend her for a position in the local school system.

"When you men buy merchandise you want to see the goods; you frequently go on trips to inspect and buy a new line of material. I had planned to go on a teacher-hunting excursion next week to observe and interview prospective teachers. You men may know that high-class teachers are scarce, and always have been scarce. Even with my quarter of a century of experience in public-school work I have sometimes picked a lemon — and some of those lemons looked particularly good on paper."

"Mr. Superintendent," said Mr. Wise, "I have found out that paper credentials for mechanics in my garage are not one bit dependable."

"You are right, Mr. Wise," answered the superintendent. "Just as you want to see what the mechanic can do, so I want to see the teacher perform in the schoolroom. I want to see if she has command of the situation and can get smooth cooperation and have an atmosphere of industry in the room. The teacher is the greatest factor in a successful school.

I have never seen an information blank that is halfway satisfactory, and every attempt of grading teachers is a self-deluding trap. For instance, discipline is allowed 10 or 15 per cent. If a teacher hasn't discipline, she is impossible; all her other good qualities cannot make up for that one deficiency. Real teachers are something to be sought out and employed when possible. The recommendations of superintendents mean very little. Too often the superintendent who writes "We employed Miss Blank last year and we are satisfied," uses this means of passing on a poor teacher to the unsuspecting. The teachers' colleges are too general in their statements and seemingly have blanket recommendations, which extol all their graduates. I know only a few college professors who can pick out a real teacher.

The least satisfactory of all are glowing records from school-board members and public-spirited laymen. Such testimonials are invariably glittering generalities, and opinions about technical matters which are not in their vocabularies. For that matter any teacher, no matter if she is a repeater in failures, can secure the complimentary letters. The average school-board member cannot be expected to judge the professional fitness of a teacher any more than he should diagnose a disease for a physician."

"Well, Mr. Standard," broke in the chairman of the board, "hardly a week passes but that I am asked to recommend half a dozen teachers. I confess I don't know what it's about. Folks seem to think that it is a part of my work."

"Mr. Chairman, the fault is not with you, but rather with the nonsensical blanks that are the style in even our smallest village schools. Who makes out those blanks is one of the great mysteries of my life — sometimes I think that perhaps they are a part of the service from the state hospitals for the insane. However, a blank from school-board members and laymen interested in education would be a valuable adjunct to the professional blanks. Such blanks should call for a different type of information. Questions like the following should be included: Does the applicant pay her bills? Does she take part in community affairs? Does she sell her services to the public? Is she interested in the better phases of community life to the extent of participating? Is she a trouble maker? Does she discuss school affairs on the street? Is she interested in social activities to the extent of being frivolous? What is her greatest service to the community? Does she have any special talents? Those questions are, of course, only suggestive of the type of information that might be included."

"Mr. Superintendent," asked Dr. Wells, "what do you think are the chief requirements of a top-notch teacher?"

"There are some ruffles and trimmings that make a candidate particularly desirable, but some of the three essentials are personality, academic fitness, and professional training. Besides, the subject and school may have specific requirements that must be considered in choosing the teacher."

"What about religion," inquired Mr. Dembuski from the new addition?

"The particular brand of religion is a personal matter. I am anxious that she has religious convictions which are more than skin deep. I think it her business what brand of tooth paste she uses of shoes she wears, the same as her church selection."

"Mr. Standard," asked Mr. Little, "I have never asked about the transfer of Miss Jones from the Hamilton to the Jefferson school? It is O.K. with me, but my wife who belongs to the Shakespeare club was asked about it, and she said that she was a bit mortified to have to reply that she did not know."

"Miss Jones makes so many personal contacts, visits homes, and takes so much interest in her pupils that I decided she was very much needed for that sort of missionary work in the factory district. We raised her salary $10 a month and explained the possibilities of the job. You know the rest of the story. By the way it may interest you to know that Miss Leaf was dropped from the Hamilton school because she took dancing and shows too seriously, and failed to recognize that the clock-watcher is soon eliminated."

"Mr. Chairman," came from Mr. Green, "this business of selecting teachers is not in my line. Forget that remark about my niece. I select and buy the furniture I sell at my store. I guess its your business to select our teachers."

The chairman asked, "Is there anything else to come before the session? Mr. Standard, if you should visit the state university on your teacher-hunting expedition, call on my brother who has charge of the university city police. He'll call out the reserves if you have too many applications."

The new Roosevelt school opened with a well-prepared and carefully selected faculty, and is naturally the pride of the city.

WORK AND PLAY

It is sometimes assumed that play is the only natural mode of activity of children, and that it is the only activity which brings satisfaction. Neither of these assumptions is correct. Traces of work can be observed even in the child's early play. As the child grows older, and arrives at the age of adolescence, he develops a marked interest in work as contrasted with play. This interest in work is a symptom of the youth's desire to make a place for himself in society. It carries with it an intense degree of satisfaction which is equal to that derived from play. It carries with it its own peculiar sense of dignity and worth. It represents a kind of initiation into real life as contrasted with play life or make-believe life. It represents the means by which the individual can measure himself, and can determine whether he is a worthy member of the group. It fosters the kind of pride in achievement which the person who merely plays can never experience. To deny the child this experience by failing to place responsibility upon him is to impoverish his personality.—F. N. Freeman.

ESTABLISH CUSTODIANS' TRAINING SCHOOL AT AKRON

The board of education of Akron, Ohio, has established a custodians' training school, which seeks to set up standards in the quality of service rendered, and to train the janitors to grow in their jobs and to improve in the character of the service rendered. The school will be conducted under the direction of the superintendent of school buildings, as a part of the vocational-education department of the school system.

The custodians' training school is in session two days a week, from 3:30 to 5:30 p.m., and the course covers a period of thirty weeks. Such topics as school housekeeping and the operation and care of mechanical equipment are taken up, the work comprising lectures, laboratory work, and fieldwork. Each particular lesson is limited to a specific subject.

The financing of the project is simple and practical. The school board provides the light, heat, classroom, and stationery for the school. One half of the cost of operation is taken care of by the Smith-Hughes Law which reimburses the schools for one half of the cost, and the remainder is borne by the custodians themselves, who pay a registration fee of $4 per person, per year.

The custodians' training school was planned, arranged, and carried out with the cooperation and approval of Supt Thomas W. Gosling of the local school system.

Are Mental Tests in the Schools Democratic?

John Dixon, Madison, Wisconsin

School boards are quite aware of the fact that in many, perhaps most schools the pupils are now subjected to a series of mental tests, and are classified in the schools on an A,B,C, or x,y,z basis, these terms indicating the strong, average, and slow groups respectively.

Some parents, some teachers, and even some pupils, have expressed objections to this plan as undemocratic. It is not at all strange that a number of people should object to the plan. That is true, of course, of almost any more or less new departure from the customary procedure.

Whether or not, however, the mental tests are in truth undemocratic, is a question upon which it is worth while to reach a decision if such a decision is within reach. If they are fundamentally democratic, that is a point in their favor; but if they are essentially undemocratic, that fact is bound to discount their usefulness.

Those who object to the tests and the classification made upon this basis, state that these tests result in labeling the several groups as the very bright, the average, and the slow; that the pupils so grouped are aware of the nature and significance of this grouping, and that the grouping tends strongly to foster caste feeling and intellectual snobbery.

They further say that such a classification tends not only to produce an undue egotism on the part of many of the upper groups, but that it brings about an "inferiority complex" in members of the lower group, and that the sense of inferiority so engendered tends to persist as a permanent character trait. If this latter statement is true, the situation which it indicates is a very serious one.

Parental Objections Ill-Advised

Parents who object to the mental-test classification assert that the pupils are in school to be taught and developed, and not as subjects for some more or less theoretical, inaccurate, and useless classification. Such parents say, "Who are these teachers that they should presume to sit in judgment upon the mental capabilities of these pupils whom they know but slightly or not at all?"

There can be no question but that there is some truth in these assertions. The practical consideration, however, is whether this system of testing and classification involves a sufficient number of these negative characteristics to make the system an undesirable one, or whether these objectionable features are merely minor and incidental.

In the first place, when is a thing *"democratic"*? Many thinkers, from Plato down to Dewey, have tried to tell the world what democracy is. But, without being unduly technical, modern thinkers are agreed upon its main features. It is agreed that: *That society is democratic in which every one is permitted to develop his powers to the utmost and to reap the just and appropriate rewards for his efforts without any artificial, or arbitrarily imposed restrictions.*

If this statement of a democratic situation is a true one, then every force that aids people to find out their powers, to measure these powers with precision, and so to find in the social and economic world the particular niche where these powers may best function, is a democratic force. And, any force that puts people into places and holds them there without regard to their fitness for such position is undemocratic. Also, what is true of people in general, will be true of pupils in the schools.

Do Tests Measure Capacity?

There seems to be little question that the Army Tests, even though crude, did help to place the men of the United States army where they could give the best service, or at least where they would do the least harm to their comrades. The opinion is quite general among educators that mental tests do measure capacity, and that by means of them, pupils are grouped into mentally homogeneous groups.

The question, however, is, whether this placing of Pupil A in Group x, Pupil B in Group y, and Pupil C in Group z in accordance with the findings of the tests, is or is not democratic.

It all hinges on the interpretation of the term "democratic." If "democratic" means the use of any system in which the greatest good for the greatest number is to be the rule, then this system has much in its favor.

Let us take the case of mathematics: Here is a given piece of work to be done in arithmetic, algebra, or geometry. Under actual tests and with the same teacher, one group will do the work in a week; another group will require two weeks; and still another group will find it difficult to accomplish the work in three weeks. Plainly, there will be serious waste involved in requiring the quick group to wait for the slow group; and, there will be serious discouragement for the slow group if they are compelled to match their abilities constantly against pupils who can always outdo them. It would seem that in such a situation the greatest good for the greatest number, the democratic procedure, would be to find by actual testing the ability of the individual pupil to go ahead in mathematics, and then to place that pupil where he can do his best work.

No Fixed Grouping

There is no element of the fixed in this situation. Each pupil has the opportunity to advance to the group next above him, or if he is in one of the upper groups, he may as readily drop into the group below him if he fails to keep up his record. The way is always open. This is of the very essence of democracy. Democracy is the law of the open road. The placing by the mental test is a merely tentative placing. The tests merely show a present fact; they seek no control of the future. Every pupil is free to go so fast as he can and so far as he can. The mental tests are only measuring rods; they do not fix; they only inform.

Again, suppose that there is in some instances a feeling of superiority, of scorn of those not so well equipped, of intellectual snobbery! This, after all, is a matter of the individual's reaction to the fact, not a matter of the fact itself. Such an individual would have the same reaction under any system.

Where democracy has not been in the ascendency, men of little talent were often artificially lifted up and held in positions they were not qualified to fill, while men of large talent were as artificially held down. Democracy enables men to find their own proper levels according to what they are and what they can do, and to work on those levels when found. To help each individual to find the level of his greatest efficiency is to aid democracy.

Also, the individual may rank far down the scale in one department of effort and very high in another. To discover that a pupil has only moderate ability in music, average ability in mathematics, and that he has remarkable ability in mechanics, is merely to deal with a fact, to discover it and to state it, and to accept and act upon the findings.

Facts Do Group Individuals

One of the things we all have to learn is that it is necessary to establish facts and accept them. The fact decides. One of the most eloquent teachers of all time said, "You shall know the truth, and the truth shall make you free." There is nothing snobbish or undemocratic in the scientific search for facts. In the world of affairs we expect that people will be rewarded according to their capacities and to their use of these capacities. But we know that native capacity, as well as effort, is a factor governing the output. Whatever may be their methods, industry, business, and the professions, are everlastingly measuring, estimating, and placing those who engage in these activities. There is nothing undemocratic in a report of Messrs. Bradstreet or Dun. The mental tests are merely the Bradstreets and Duns of the classroom.

Under the old system there was grouping according to ability, but the grouping was not used to further the best interests of the pupils. Pupils were grouped both in the estimation of their teachers and their classmates. The slow pupil in such a case bore the disapproval and sometimes the contempt of his associates without reaping any of the benefits resulting from any special arrangement to aid

SCHOOL GROUPING ACCORDING TO ABILITY IS JUSTIFIED INSOFAR AS IT FURTHERS THE BEST INTERESTS OF PUPILS

him in overcoming his handicap. Under the test-classification system, pupils working with other pupils of approximately the same speed and ability, can work without embarrassment. Pupils themselves are coming to understand the value of scientific placement.

Grouping Essentially Democratic

Another evidence of the democracy of the mental-test classification is that the *motive* of the entire mental-test movement is to serve better the needs of the individual pupil. Binet, the originator of this movement, devoted his life to the help of the unfortunate. And the many who have come forward to carry on his work have felt the same urge to give larger and more discriminating service to the individual pupil. The very core of democracy is individualism, the freedom for expression and development, the happiness and progress of the individual. The mental-test classification has for its object the placing of the individual, whether he be brilliant or slow, in such an environment as will best aid him to self-expression, self-development, and self-advancement. It does not place a bar sinister across the pathway of the pupil: it rather furnishes him with a lever adapted to his capacity at this particular point in his development.

Further, the mental-test-classification method is democratic because, by suiting the demands made upon the pupil to his ability, it promotes the interest of the pupil, enables him to succeed in his studies, and so keeps him in school instead of permitting him to drop out because of discouragement. This makes him a more productive member of society, gives him a better opinion of himself, and so raises the general level of skill and personal and general effectiveness.

Under the old system the less brilliant pupil was rated as an inferior, treated as an inferior, convinced that he was and always would be an inferior, and so led to live the life of an inferior. Today under this more precise and scientific system he comes to know that, although he may be unable to appreciate the niceties of De Quincey or the abstractions of advanced algebra, he, nevertheless, may become a marvel in the rehabilitation of reluctant motors, conjuring them into action with a touch that his more bookishly brilliant companions could never know, and so winning much acclaim from exasperated automobilists and much respect for his bank balance!

So, we conclude that the mental-test classification is democratic, because its aim is democratic, because it places each pupil in the working niche where his opportunities will be greatest, because it is the nearest approximation to the truth as to varying human capacities yet reached, because it is essentially the method of the open door to bigger things, because it refuses to emphasize unduly merely book learning ability, and because in actual practice it works out by keeping pupils in school and interested and happy.

Relation of a School Board to Its Superintendent[1]

C. M. Osterheld, Member, Board of Education, Stoughton, Wisconsin

There are, I presume, as many different relationships between the various boards and their superintendents as there are differences in relationships between the deacons of a church and its preacher. Every community seems to have a slightly different idea of the functions of the school board, this idea being pretty much determined by the previous relations of its school board to its superintendent. Any change in this relation in a given community comes about fairly slowly, especially where superintendents are not being changed rapidly. Each new board member is posted in the traditions of this august body and in most cases tends to pass the traditions along to other new members.

There seem to be three kinds of relationship between superintendents and their boards. The first, one in which the superintendent is a high-class clerk and the boards really manage the school, doing everything from the hiring of teachers to disciplining urchins. This is not as frequent as it used to be, but you all know of cities where it exists. I know of a school system with about sixty teachers where the various members of the board are constantly listening to the complaints of teachers, and where anything the superintendent wants done is never accomplished if it doesn't meet with the pleasure of a certain young lady, until she has run to one or more board members with the pros and cons of why she should or should not do a particular piece of work. This board doesn't seem to realize that *they have a school system that is just about as weak as the superintendent's authority.*

Another board I know of is composed of three members. They enjoy hiring teachers. The results are pretty much the results of a beauty contest, with the one saving exception that only normal-school graduates may enter the competition.

The Usual Relationship

In the second kind of relationship, the board recognizes the expert functions of a superintendent and usually works in cooperation with him; but just about every so often they either hire a teacher against his recommendation or deal with some professional problem without consulting him; or else some particular phase of local politics or personality causes them to do some specific thing contrary to the best interests of the school and often without consulting the superintendent. I presume a great many boards fall into this class; one month they'll be the joy and the next the despair of a superintendent. Boards of this kind often have an ex-teacher as a member who occasionally has to "lend a hand" by correcting or advising with the teachers personally or otherwise throwing a little grit into the bearings of the educational machine. No wonder an exasperated superintendent explained that bartenders always make the best board members because they realize they do not know how to teach school.

The third class is one in which the board fully recognizes that its duties are legislative rather than administrative, and that the details of administration are to be left in the hands of an expert while the general legislation is the primary function of the board. A board member of this latter class would not have to have a knowledge of pedagogy or be fully aware of any of the new ideas in education to make a good member. In fact, it would be an unusual thing to find a person of previous teaching experience on a board of this type. Its chief and most important duty is to obtain a competent superintendent; and having done that, such a board will delegate to this superintendent the carrying out of the administrative work of the schools and the nomination of the various teachers that are required. The board may occasionally object to a particular nomination, but will not ordinarily suggest nominations to the superintendent; and having elected the teachers on the superintendent's recommendation, the superintendent will be held responsible for the results which they achieve. Responsibility and authority necessarily go hand in hand, and *a superintendent cannot be held responsible for teachers who receive appointments other than through his nomination,* nor can he be held responsible for results if not given the authority to obtain them.

Give Manager Free Hand

A board of education is the board of directors of the most important business in the community. It employs more specialists than any other institution in town. The quality of its product is more influenced by the skill and ability of this staff than is true of any commodity the community sends out. How should such a board conduct the affairs of its stockholders? By placing the management in the hands of a man trained and competent in the handling of this particular staff of specialists; one who is sympathetic with the aims and purposes of the institution. Shall such a manager be interfered with by any director who has had some previous experience in the factory or who represents a group of stockholders who are anxious for dividends? The answer is obvious. The man chosen received his appointment, or should have received it, solely on his ability to produce results and must be given an opportunity to obtain them. Any other procedure in a business institution would be considered as prejudicial to the best development of that firm's business.

An ideal type of board will concern itself, in addition to the selection of its expert advisers, only with the broader problems related to its schools; such as the selection of sites, the determination of the budget and its relation to the school system, and the ability of the community to underwrite this tax levy. As schools are improved, the expense for teachers and for new equipment will necessarily increase gradually; and one of the important duties of the board is to see that the needs of the schools are anticipated, and that the people of the community are familiarized with these needs so that they will be in sympathy with the improvements before they are presented to them. This ideal board acts as the interpreter of the educational expert to the community, and also advises the superintendent as to the speed with which the community can absorb the various needs which always are present.

Enlightenment Necessary

The average citizen who becomes a member of the school board, even though he may have the greatest desire to be of service, frequently has vague and often sorely mistaken notions of his relation to the school system. He often goes to his fellow board members to get their idea as to the duties of a board member and these he in turn attempts to carry out. There is no place in which a general increase in the understanding and enlightenment of a small group can have a greater bearing on the improvement of a multitude than exists in the raising of the general outlook and comprehension of the members of a school board. Though there may be and are certain books available on the subject, I believe it would be a splendid contribution to education on the part of the Wisconsin Association of School Boards if they would initiate a program of familiarization of school-board members with the larger concept of their duties.

I believe that drawing up an explanation of the duties of board members and a code of ideals, and putting this information into a pamphlet which can be placed in the hands of new men as they are elected to the board would do more to make the work of a superintendent pleasant and effective and cooperative than any one thing this association can accomplish, and I urgently suggest this as a valuable work which this association can well afford to initiate.

THE BUSY, BUSY SUPERINTENDENT

It is significant, however, that school systems which have made the greatest progress have been guided by men who managed to find the time to look ahead, who have been able to see the entire forest in spite of the trees.

[1] A paper delivered at the annual meeting of the Wisconsin School Board Association, Madison, April 12, 1929.

The Personal Qualities of School-Janitor Engineer

Harry S. Ganders, University of Cincinnati, Cincinnati, Ohio, and Charles E. Reeves, Elmira College, Elmira, New York

In 31 of 90 sets of rules and regulations concerning janitor service, necessary personal qualities of janitors are briefly stated. The following are samples of such requirements:

The janitor shall present a clean and neat appearance.

. . . shall have a kind and gentlemanly deportment.

Janitors shall be civil and courteous.

They shall be courteous and respectful.

. . and shall be respectful and obliging.

They shall be respectful in language and bearing.

Janitors shall be agreeable and useful.

They shall cooperate with the principals and teachers.

. . . and shall render faithful and efficient service.

They shall be gentle to pupils.

Janitors must comply cheerfully with regulations.

Loyalty and the support of teachers are required.

Janitors must be of good character.

Only trustworthy men and women of good character should be employed as school janitors. The board of education cannot afford to submit the children of the school to the bad influences of a janitor who has serious defects of character. Some of the breaches of conduct that cannot be tolerated are disregard, by male janitors, of the privacy of girls' and women teachers' toilet rooms; misconduct in boys' toilet rooms; permitting groups of boys to gather in janitors' quarters for smoking, gambling, and indecent conversation; the use of profane language by the janitor anywhere about the school building or grounds; the bringing of liquor and drugs to the school building; and some forms of conduct arising from a quarrelsome disposition or an uncontrollable temper. The work of the school janitor necessarily brings him into close contact with teachers and pupils. It is therefore, essential that he be a man of fine moral character, free from bad habits and vices that will be detrimental to the work of the school.

The janitor whose personal qualities permit of his getting along well with teachers and pupils is usually the janitor whose services are most economical. Teachers and pupils will cooperate to lessen the work for a man who combines in his character the qualities discussed in the paragraphs that follow.

The personal qualifications of a school janitor-engineer[1] are much like those that are desirable in teachers. Some may be different, but the desirable characteristics are not fewer nor of less importance than those of a good teacher. The janitor, when employed, should be made to realize that his personality enters into the final selection for the position in the same manner that teachers are forced to realize the importance of this factor in holding, as well as in securing, their positions.

What Children Think of Janitors

Good health is a first essential. An individual's attitude toward his work, his ability to get along with others, his personal appearance, and his general efficiency are largely conditioned by the state of his health and physical vigor. An old and feeble, sickly, or otherwise incapacitated individual should not be employed to teach children, nor should such a man or woman be hired as a janitor. Few janitors in ill health will be capable of enduring the strenuous work and long hours, from the time of firing-up early in the morning to locking-up the building at the close of some community function held in the school at night. Few janitors in ill health will be capable of maintaining their good nature and agreeableness in their relationships with varying personalities among pupils, teachers, and administrative officers.

[1]See Reeves, C. E. and Ganders, H. S., School Building Management, pp. 9–11. Published by The Bureau of Publications, Teachers College, Columbia University, New York City.

This is the second paper of an important series of studies of janitors and janitorial service. The authors have made school-building management the subject of intimate study extending over a period of 10 years and present here a summary of the results. School boards will find the present paper useful in setting up standards for the employment and promotion of janitors.—The Editor.

Right Attitude Toward the Job

A janitor-engineer with a healthy body is, because of that fact alone, more likely to have the right attitude toward his work. A vigorous body does not, of course, *guarantee* a healthy mind and spirit. But the attitude of the janitor toward his work is very important. It is responsible for inefficiency, discouragement, and friction on the one hand, or for competency, joy, and harmony on the other.

1. *Love of the Work.* If the janitor realizes the importance of his work, recognizes the real service he is rendering, and knows that he is doing his work well, it is likely that he can find real enjoyment in the performance of his daily duties. At times he may feel discouraged and disheartened, but if he loves his work he will more often see the bright side and will forget himself in the joy of worth-while accomplishment. Instead of seeing the unpleasant steps in the procedure, he will see the finished product. Such a janitor will be a steady and persistent workman and his spirit will spread in the school.

2. *Enthusiasm.* The janitor who loves his work probably will be enthusiastic about it. Administrators and teachers should help the janitor by praising him for work especially well done and for extra work that his enthusiasm has led him to perform for the school. The janitor will find himself becoming enthusiastic for his job in proportion to the degree in which his building is well "janitored" as compared to other school buildings of the community.

3. *Cheerfulness.* A janitor's attitude toward his work may be judged by whether or not he appears to be happy and contented and whether or not he renders service cheerfully. Some janitors make the mistake of acting grouchy and reproachful about doing some work for a teacher which they, in the end, expect to do anyway. By immediately responding to a request in a cheerful manner, the janitor will not only be showing the right attitude, but will, by that very act, make it easier for the teacher to want to help him.

4. *The Investigating Attitude.* The janitor-engineer can, in a limited way, be a real investigator. He can continually experiment to determine the best ways of doing his work, and through experimentation and sound judgment continually find means of improving his methods and the results of his service. The best janitor-engineer the writers have ever known, had made tests of the effectiveness of various cleaning materials for glass, porcelain, brass, etc., to determine those that would save time and secure best results. His experiments were not always completely controlled, but during his thirty years of service he had gained much valuable information, of an objective nature. His school was a model of order and cleanliness.

Constant Study Helpful

The janitor-engineer with the inquiring attitude of mind will try to know more than any other person about the janitorial service of his building. To succeed in this he must constantly study the job as he works at it. He must read whatever bears upon his work in books and magazines and try to apply what he learns to his particular problems. He will use all possible means for the improvement of his work. There is inspiration to be gained from the three janitors, one from a school in Texas and two from schools in Kansas, who at their own expense, traveled more than 700 miles to attend the short course for janitors held at Greeley, Colorado, during the summer of 1926.

5. *Good Nature and a Love of Children Characterize the Proper Janitorial Attitude.* If the janitor likes children they are quick to respond to his attitude. They become his staunch defenders and will try to minimize the amount of work they cause him by keeping their desks free from marks, the floor free from papers, their shoes free from mud, and the like. This is in striking contrast to the actions of children in schools where janitors do not like children. While they may fear him and be models of behavior in his presence, they are not slow to take advantage of his absence to waste toilet paper, throw chewing gum on the floor or in the drinking fountain, or loosen their desks and seats. The good opinion and respect of the children are essentials to the effectiveness of janitorial work. This respect is easy for the janitor to obtain, for in childish eyes the janitor is an important school official. It would be well if teachers and school officials and the general public would grant the appreciation and respect accorded by children to worthy school janitors. The following conversation between two little girls will illustrate the regard children sometimes have for a congenial janitor.

What Children Think of Janitors

Mary: "Our janitor is just the nicest man. He fixed the windows for our flowers and made shelves for our things, and helped us put up our Christmas decorations. Miss Brown didn't have to ask him either. He keeps our modeling clay nice and soft and runs our moving pictures, too. He took me to my room the first day. He knows me and always says something nice to me when I come in. His name is Mr. Kramer. I'll bet he's nicer than your janitor."

Geraldine: "I'll bet he isn't any nicer than Mr. Flynn. Mr. Flynn helps us, too. He is Irish and the funniest man you ever saw. We like to watch him work whenever teacher will let us, because he always makes us laugh. He has a little girl in my room, too."

It is evident that the janitor should be good-natured and friendly. He should possess a sense of humor. He must be obliging and cooperative and take a personal interest in the children of the school. Then he will gain the respect and admiration due him in schools taught largely or wholly by women, the janitor, if he is of the right sort, will hold a special place in the hearts of little children.

6. *Honesty.* School janitors and engineers must be honest. Valuable supplies are kept in the supply rooms, tools in the workshop and manual-training rooms, and coal in the coal bin. These supplies not only must not be taken by janitors, but must be protected by them from thefts by others. Systems of reports will help, but no system of records and reports will prevent thefts by dishonest janitors and engineers. Furthermore, it is important that janitorial employees be honest in giving full service and that they do not shirk the performance of their duties.

7. *Willingness to Accept Responsibility.* The janitor-engineer must be willing to accept responsibility for the proper performance of all the details of his work. He must feel personal

responsibility for all cleaning jobs, for keeping proper temperatures and air conditions in his building, for protection of his building and grounds against depredation and fire hazards, and even, to a degree, for the efficient educational work of the school insofar as it is affected by his service. He must realize that he is an important cog in the educational machinery. This feeling of responsibility must be so strong and keen that it will influence both the janitor's attitude and every detail of his work.

8. *Humility.* Mr. James Ball, chief engineer of the Denver public schools, who has charge of the janitor personnel of that system, places humility at the top of the list of desirable qualities for janitor-engineers. In addressing the janitor-engineers attending the summer school for this group, held at Greeley in 1926, he said:

"Janitors who act as though they own the place, are not wanted. A humble attitude is appreciated in men holding high executive positions. It is just as much a virtue in janitors. The humility of the great American, Lincoln, is very much to be desired as an outstanding characteristic of school janitors.[2]

Ability to Get Along Well With Others

Most of the personal qualities already listed make for success in getting along with others. However, since this ability is so fundamental to the success of school janitors, a few pertinent suggestions are here added.

1. *To See Situations from Another's Viewpoint.* If a janitor has the mental and social ability, as well as a sincere desire, to see the difficulty in the teacher's job, to understand the impulses of children, and to see the wisdom contained in a principal's suggestions, he is almost sure of success in his effort to get along with his associates. This ability depends upon the development of the finest and rarest qualities of the human mind. Only the individual with rare good sense and perfect control of his emotions can always see situations from the point of view of the one who sees things differently. Any willing and intelligent janitor, however, can do this at least a part of the time. Nothing else he can do will so repay his successful efforts.

2. *Adaptability and Resourcefulness.* A good janitor must be adaptable to varying conditions. He has contacts with many types of personalities in the performance of his duties. He may find teachers who are overbearing and inconsiderate as well as many who are thoughtful and cooperative. He has to use resourcefulness in planning his work so it will not interfere with the work of the school. He may even have to change his schedule at times when such things as after-school practicing by children interfere with his work. To fail to adapt himself to changed conditions, when they occur, may mean work left undone, trouble with teachers, or his complete failure.

3. *Attending to His Own Business.* The writers know of a janitor who spent time in telling a manual-training teacher how he could better conduct his work. When so engaged, an accident occurred in the boiler room which not only cost much to repair, but endangered the lives of children. As a result of not minding his own business, this janitor lost his job. The janitor's work, in itself, is a man-size job. He should expend his energy in its proper performance. He should not feel the necessity of assuming the principal's or teachers' professional work.

Courtesy and Cooperation Helpful

4. *Courtesy.* The janitor must be courteous to other school officials, teachers, and children. No habits are formed by example more readily than habits of courtesy. The janitor's station is not subordinate to that of teachers, neither is it superior. Both must recognize the equality of their positions with mutual courtesy.

[2]Other personal qualities deemed essential by Mr. Ball were: industry, cheerfulness, appreciation of the beautiful, friendliness, neatness, and loyalty.

DR. C. E. REEVES,
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Elmira, New York

5. *Cooperation.* There are many ways by which the janitor-engineer can aid teachers and pupils. A janitor, whose work is limited to specifically required jobs, is not worth retaining. Voluntary help, where it is not required as a part of his specific duties, will usually be rewarded by teachers and pupils in their attempts to reduce his necessary duties to a minimum. Of course, teachers and pupils should recognize the voluntary aspect of such work and not take it for granted. The janitor-engineer is not a man of all work to come at everybody's call.

6. *Congeniality, Tact, and Self-Control.* Nothing is so detrimental to the influence for good, which the janitor-engineer may exert, as disagreements, disputes, and wrangling between janitors and teachers or between janitors and assistants. For the sake of the children, as well as for the efficiency of the service, all should be harmonious among the employees of the school. All must recognize the common aim of working for the development of the children intrusted to their joint efforts.

For this reason janitors must have self-control when the thoughtlessness of others produces conditions which are not to their liking. It is not necessary that the janitor-engineer be servile or that he lack sufficient "backbone" to resist an invasion of his rights, but he must use tact in dealing with such situations. Tact, as a personal quality of janitors in dealing with teachers and pupils, is as essential as tact, as a personal quality of teachers, in dealing with parents and pupils.

A janitor will invariably find that he will be more successful in maintaining his rights if he uses self-control and tact and that teachers, in the main, want to do what is right by him. After all, congeniality and friendliness are essential. Schools are maintained, not for the janitor or the teacher, but for the benefit of the children who attend them. Janitors, teachers, and the principal should be friendly and cooperative and should develop a common feeling of responsibility for the physical, intellectual, and moral welfare of pupils. Such a school has the first requisite for success in its principle undertaking and will justify its existence.

School No Place for Laziness

7. *Industry.* The school is no place for a lazy janitor. No janitor who tries to reduce his work to a minimum by leaving the cleaning of erasers and blackboards, and in some cases even dusting, to teachers and pupils, is fit for this position. Such janitors should not be hired, or if hired, should be dismissed at the first opportunity. Yet it is surprising how many janitors leave the performance of such necessary cleaning jobs to teachers and pupils. A New York City janitor said to one of the writers some time ago, "I have placed a duster in every classroom, but you'll find dust in them. The teachers in this school are too lazy to dust." Such a position by the janitor is untenable. Teachers are not employed to dust and janitors have no right to expect them to do so. The specialization of their jobs demands that teachers teach and that janitors dust rooms and clean erasers and blackboards.

8. *Attitude Toward Community Factions.* The wise janitor will do his best to keep out of community "squabbles." The chances are that what he could do to straighten out religious, political, or other disagreements of a similar nature would be negligible. He is a public servant as truly as are the school superintendent and principals. He should, therefore, seldom commit himself upon heated questions. If, after careful consideration, he decides to take part, he should realize that in so doing, he will, in the long run, be the loser. The wise janitor, like the experienced school superintendent, will spend his time in improving the schools within his field of service. When the community wound is finally healed, he may find that his well-cleaned building and improved grounds are the finest things in his community and that he, himself, will be greatly benefited as a result.

9. *Payment of Debts.* Janitor-engineers receive their salary from funds collected by taxation. Nothing is more certain than that they will be regularly and fully paid. It is, therefore, important that they promptly pay their debts. Creditors sometimes find it necessary to go to the board of education to collect debts contracted by janitors. This is resented by the members of the board and seldom results in an improved position for janitor-engineers.

Appearance and Personality

Dress, speech, voice, and bearing, could have been included in the above section since they affect the janitor's success in getting along with people, but because of their importance to the janitor and the school they are here given separate consideration.

1. *Dress and Personal Appearance.* The janitor-engineer must at all times present a neat and clean appearance when his duties take him about the school building. This means that he must dress neatly but plainly; that he must keep his clothing clean and pressed; that he must keep his hair cut, his face shaved, and his face and hands clean. Only by attention to these matters of personal appearance can he be an example for children to follow.

It may be thought incongruous to expect janitors and engineers, whose duties require that they clean buildings and fire furnaces, to keep clean. But the fact that they often do keep themselves comparatively neat and clean, indicates that it is possible. It is much easier for janitors who keep their buildings clean, from the top story to the furnace room, to keep themselves clean. Janitors who are most particular about the cleanliness of their buildings almost invariably are the most particular about the cleanliness of themselves and their attire.

There is, of course, work which must be performed in every school that is dirty work. The man who fires furnaces and cleans boiler tubes can hardly keep clean while performing these duties, but he can wash his face and hands and change his clothing when his duties call him to other parts of the building than the furnace room. The janitor whose duty it is to clean the building can have different clothing to wear when performing the dirtiest jobs from that worn about the building during the day. If janitors are to keep clean, it is important that facilities be provided for their doing so. The janitor must have quarters where he can change his clothes. He must be provided with a lavatory

(Continued on Page 127)

Contracting for Schoolhouse Equipment

The Experiences of a Business Manager

The writer, who is business manager for the public schools in a mid-western city, recently met with an experience that aroused his ire. This experience was not a new one. In fact, it is altogether too common in this country, and no doubt other school men have the same attitude toward this situation that the writer has at the present time. Perhaps the presentation of the facts in the case may help to remedy the situation or otherwise stimulate others to present a different picture.

Bids were opened recently for the construction of a new school building in the city where the writer is located. The board of education awarded contracts the day the bids were opened. Contractors bidding on the job were required to list the sub-contractors and companies that were to furnish the various mechanical features for the completed job. The sub-contractors and products listed by the successful bidders were approved by both the architects and board of education. It appeared that everyone was quite well satisfied with the way the contracts were finally awarded — that is, everyone but the representatives of a number of companies which had lost out when the mechanical features and products were determined.

The board of education had scarcely adjourned when the writer was met by the representative of one of the heating specialties companies that had not been successful when the contracts were awarded. Charges of unfairness on the part of his competitors were made by this representative. His confidential price to contractors had been given to his competitors so they could change their prices before the bids were in, according to his statement. And as a matter of fact, information gleaned from other sources rather substantiated this accusation. Other statements charging the successful competitor with unethical dealings were also made, which may or may not be true.

The General Spirit of Competition

However, these accusations have little bearing on this particular experience outside of indicating the general spirit of competition. This representative admitted that the price he had given the contractors for his devices was higher by several hundred dollars than the price made by the successful company. He then offered to cut his price — after the bids had been let — to meet his competitor's price; and when this offer was not accepted, he made still another offer that was considerably lower than that of the successful company.

Now it happens that this persistent representative had an acceptable product, in fact a very excellent apparatus, according to the writer's viewpoint. Had he given the contractors bidding on the job as good a price the first time as he offered the board finally he, no doubt, would have been awarded a sub-contract for his system. But he didn't do so, and now after the contracts were awarded he came in to see what he could do to get the job anyway. Hours of time were taken up by this representative, several schemes proposed, and every sort of string pulled, in order to try to switch the business at this late hour.

Perhaps this is considered good business by some of the companies, but if it is sanctioned and encouraged by schoolmen, it seems to the writer that soon or later the public will be the goat and will have to receive inferior work or inferior products, or else later pay higher prices, for the companies simply cannot continue to cut prices and do business at a loss, and still survive.

As a measure of ultimate self-protection, schoolmen must discourage such proposed business dealings. The writer respectfully suggests that perhaps the companies furnishing school-building equipment and supplies need to adopt some code of ethics and then stick to it, as a matter of self-preservation.

The writer of the present paper is the business manager of the school system in a medium-sized city in the middle west. For obvious reasons his name must be withheld. School boards will find in his paper considerable food for thought.
—The Editor.

But the heating device was only one item. A representative of one of the unsuccessful clock companies was right on the job to argue his product — after the contracts were awarded. He, too, asserted that he had not gotten a square deal, that his price was the lowest, and that he therefore should have been awarded the sub-contract, As a matter of fact, he held his price a secret so long, hoping to learn what his competitors would do, that the contractor getting the electrical job submitted his bid naming another clock before the unsuccessful clock agent presented his price.

He Wanted a Square Deal

Now he wanted a square deal from the board of education. But the board didn't want his product at all as it happens to be very well satisfied with the clock system listed in the bid of the successful contractor. The unsuccessful agent then went to the successful contractor and cut the price of his system to such a point that he (the contractor) wanted to change his list. Now the writer, as representative of the board of education, has to stand pat against a clock salesman and the electrical contractor, both of whom smell a profit if they can sell the board an inferior product that is not wanted.

Next came an agent for a plumbing fixture concern. It happens that this company was listed to furnish the plumbing fixtures according to the specifications. But this agent was not satisfied. He wanted the board of education to specify different fixtures, which strange to say, all happen to sell at higher prices. He could have made these suggestions before the original specifications were approved, or before the contracts were awarded, but he didn't. He waited until the contracts were made and then decided that perhaps the board was ripe for his picking. But the board happened to be too green for this particular agent who met with no success in his endeavor to persuade it to pay out more money than it intended.

The fourth agent to make himself unwelcome had panic bolts on his mind. It would be terrible for the board to even consider any bolt other than his. Safety is so extremely important, and the dear children's lives so valuable, according to his impassioned plea, that it would be nothing short of criminal to specify any panic bolt other than his avowed favorite. The writer wonders how many schoolmen should be in prison for making the serious mistake to favor some other make of panic bolt, and how many companies manufacturing this product should be investigated by some Congressional committee. This panic-bolt salesman was also kind enough to point out how wrong architects usually are in drawing their specifications and how they should do their work. Probably the architects, in turn, could tell this particular salesman how to sell goods, for he surely got off on the wrong foot in this instance. Incidentally, his panic bolt is one of the best on the market, in the opinion of the writer.

The Other Man's Product

Next in line in the army of conscientious objectors to boards of education deciding what they want, came a vacuum-cleaning salesman. According to his story the board would receive a very inferior vacuum-cleaning system, unless it should wisely decide to change and specify the system put out by his company. He admitted that the vacuum-cleaning system listed by the successful contractor came up to the specifications laid down by the architects, but the architects didn't really know much about vacuum-cleaning systems. He produced a great number of pictures of schools which used his particular system and quoted a mass of statistics (which Mark Twain called one kind of lie) to support his product. His product happens to be one of the best. The writer has no quarrel with him about the merits of his system. But why should this salesman come in *after the contracts are awarded and the sub-contractors listed* to try to convince the board to switch over to his product?

The architect drew up his specifications so that they would be open to all reputable companies handling high-grade vacuum-cleaning systems. All companies had an opportunity to submit a bid. The company submitting the lowest bid and having its product approved by the architects was listed to furnish its vacuum-cleaning system. Everything was open and above board and everyone had an equal chance to bid. Then why should pressure be applied after the contracts were awarded in an attempt to change what had been approved? Evidently it is considered one way of doing business.

The writer could mention a number of other individuals selling boilers, varnish, hardware, paint, brick, etc., who came in *after the contracts were awarded* with propositions embracing the use of their products. However, more detail is unnecessary. The foregoing illustrations are sufficient to point out what the writer has in mind. There is no doubt but that schoolmen and architects can learn a great deal from the representatives of the various companies selling school products.

Salesmen Worth Listening To

Those who refuse to listen to the arguments of these representatives are certain to lose something decidedly worth while. These men know their products. They can often point out some of the good features to look for in products in their line and can also point out the poorer features against which the schoolmen and architects should be warned. These salesmen are worth listening to. But when it comes to a new school building job, the writer contends that the various salesmen should give their information to the proper officials before the bids are opened and preferably before the specifications are written. Many of the salesmen insist this cannot be done, that the architects too often have closed minds about certain products, and that the specifications are drawn up so loosely that inferior products can always be substituted at a lower price.

(Concluded on Page 128)

MENTAL HYGIENE AND HOME

The mental hygiene of the home has a more subtle aspect than that which has to do with the formation of habits and patterns of conduct through the processes of imitation and suggestion. What the child hears and sees is of vital importance during these early years, though what the child feels, though more intangible and less well defined, is after all that which gives tone to life, that which gives us our mental attitudes toward relationships long before we even know they exist, let alone why they are so.—Douglas A. Thom, Boston, Mass.

The Fowlerville High-School Union

Harvey D. Douglass, Superintendent of Schools, Fowlerville, Michigan

The Fowlerville High-School Union is an organization of the pupils and the faculty of the Fowlerville High School. It was organized for the purpose of (*a*) getting the activities of the school on a stable financial basis, and (*b*) giving the pupils a direct voice in the management of these activities and their financial control. The school union is the means by which student participation in the management of the school is carried out.

The Organization of the Administrative Board

The board of management is composed of the class presidents, other elected officers, the principal, and the superintendent. The class presidents are elected at the first meeting of the classes when no member of the faculty is present. The other elected officers are elected by the Australian secret ballot by registration, caucuses, and regular election. The board is known as the student council.

At the meetings there is open discussion of anything pertaining to the affairs of the school. This material is brought to the meeting by the class presidents, or is carried back to the classes by their presidents, if initiated at a meeting of the council. The classes are then free to discuss it and take such action as they see fit. The class sponsors are present at all meetings, except the first. These sponsors are elected by the class.

The cost of operation is borne by the sale of union tickets, class dues, and money taken in at all extracurricular activities. The union tickets cost the students $4 each. If purchased on time the cost is $5, payable in five monthly installments. One or two are supplied without charge each year when it is found the pupil cannot purchase them. These union dues are apportioned to the various school activities. For example, class dues are 10 cents per month, or $1 per year; attendance at all football games, basketball games, baseball games, and two track and field meets cost about $3.50 per year; the five numbers of the school lyceum course cost $1.85; and so on to the junior play, the senior play, the concert, and the operetta. The part each is of the total determines the part each receives from the sale of the union tickets.

The Handling of the Finances

The funds of each organization are kept intact and each gets all the proceeds from its own events. If a student holds a union ticket he is admitted to all events, and his class dues are paid with no other expense. If he does not purchase a union ticket, he pays the regular price to all events he attends. If he does not pay class dues and has no union ticket, he is not admitted to the social affairs of the school. All purchases are made by the student business manager. All bills are brought before the council. If allowed, the business manager writes the checks and pays the bill. However, all checks must also be signed by the superintendent, or the principal, as well as the business manager.

The books are kept by the business manager and his assistant. There is an account for the union tickets. There is also a list of them with the name of the student purchasing that number. They are not transferrable. Thus the student is protected in case the union ticket is lost. The name of each student is written on the ticket when it is sold. There is an account for the union as a whole; an account for athletics; an account for each class; one for the lyceum course; one for the music department, and one for the school as a whole. The last takes care of assembly money, surpluses, overdrafts, and deficits. One per cent of the income from each event is placed in the latter account.

Administration Activities of the Council

The council carries on its own meeting when it is impossible for a member of the faculty to be present. It initiates, organizes, and carries out class parties; athletic programs of football, basketball, baseball, track and field meets, as well as participation in state tournaments; assembly programs at which are offered debates, plays, minstrel shows, etc.; the junior-senior reception; junior play; senior play; lyceum course; class picnics, and graduation.

For the class parties there are committees on decorations, on refreshments, recreation, and reception. At the football games they line the field, provide the gate tenders, collect the admission fees, and deposit the proceeds. At the basketball games, they attend to the seating and unseating of the gymnasium when necessary, arrange the seats for the spectators, and the quarters for the visiting team, provide the door tenders, and the ticket sellers. They present assembly programs after deciding which class shall give them, assigning it to the music department or the elementary grades, etc.

ADMINISTRATIVE BOARD OF THE FOWLERVILLE SCHOOL UNION IN SESSION

From left to right the picture shows: Wilmont Peckens, assistant student business manager; L. W. Duncan, principal of the high school; Harold Dibble, student business manager and senior class president; Arnold Zwinck, secretary of the Council and junior class president; R. Z. Allen, ninth grade president; Ardale Nichols, eighth grade president; Frances Finlan, seventh grade president; Mr. H. D. Douglass, superintendent of schools, and Doris Wendel, treasurer of the Council and sophomore class president.

Type of Program Offered

Ususally the type of the program is left to the organization presenting it. We have had plays, mock trials, minstrel shows, declamations, orations, debates, as well as musical programs. We plan to use those who do not get a chance in the regular school plays. This does not interfere with our regular chapel program, which is held in the high school and in the elementary grades on alternate weeks. Neither is it allowed to interfere with the regular work of the school. It is all managed as an extracurricular activity. These programs are started by the senior class, and are presented in the auditorium at the first period in the afternoon. Visitors are charged 10 cents admission. This pays the little expense incurred for make-up, costumes, etc.

The lyceum course presents a play of the heavier type, one comedy, two musical programs, and an old-time school exhibition. One musical program is largely vocal, with instrumental numbers interspersed. This is offered by the music department from the elementary grades. It is the Christmas operetta. The other musical number is largely instrumental, with readings and vocal numbers interspersed. The music is that of the state contests at which our musical organizations participate. It gives the people who do not attend the state contests an opportunity to hear their own organizations perform. There are ensembles, solos, glee clubs, quartettes, and choruses, as well as the entire orchestra.

The Financial Success of the Plan

This does not claim to be the *summum bonum* of all possible school organizations. It has changed the situation materially in the Fowlerville High School. Each organization has been placed on a self-respecting paying basis. The bill of about $150 for athletic equipment which was usually carried over each year by some local merchant or athletic supply house until the receipts of the basketball season came in, has almost entirely disappeared. Athletics no longer absorb a major portion of the income. That belongs to other organizations. The lyceum course which had been in the habit of facing a deficit at the close of the season cleared a little over $300. This was used in making payments on a motion-picture machine and slides, as well as advancing $40 to pay the expenses of the alternate of our livestock judging team to the national convention at Kansas City. Financial reports are made showing the source of the receipts, and the amount and purpose of the expenditures.

SECONDARY SCHOOLS SHOW LARGE INCREASE

That the costs of secondary education increased 300 per cent, and the total number of students came within 100,000 of doubling during the period from 1918 to 1926, are the facts brought out in a recent report by Mr. Carl A. Jessen, specialist in secondary education for the United States Office of Education.

The report shows that, during the period from 1918 to 1926, the total population of the country increased somewhat less than 15,000,000, not quite a 14 per cent growth, and during this time the number of high schools increased 5,400, or a 33-per-cent increase.

At the present time more than one half of the population of ages 15 to 18 is actually enrolled in the secondary schools. In 1918, the percentage was 28.29; in 1920, 37.80; in 1922, 41.74; in 1924, 48.35; and in 1926, 53.12. The corresponding percentages for enrollments in public high schools ranged from 25.6 in 1918 to 48.2 in 1926.

The cost of secondary education in 1918 amounted to $162,875,761, compared with $697,911,735 in 1926.

The Duties of Public-School Administrators — VIII

Fred C. Ayer, Professor of Educational Administration, the University of Texas

The series of articles, of which the present is the eighth, has been devoted to an analytical discussion of the duties which pertain to public-school administration. Within the general field detailed treatments have been made in turn of the special fields of educational administration known as general control, executive management, business management, personnel management, the management of pupils, and the curriculum. The following article continues this series of articles with a detailed treatment of the duties of principals and superintendents in connection with the administration of special activities.

X. Special Activities

Closely allied to the administrative duties which pertain to the curriculum is a set of duties which, because they have not as yet become generally standardized, are frequently classified as special activities or, not entirely correctly, as extracurricular activities. The rapid development of special student-organizations and extracurricular activities in the midst of the already crowded school curriculum is one of the outstanding features of the recent development of public-school organization. There are few superintendents and principals of experience who have not devoted many anxious hours to problems which have grown out of these new school conditions. Most educators hold the opinion that these new activities are on the whole, distinctly salutary in their general effect upon student welfare. There are many critics, however, of extracurricular undertakings, and not a few teachers view the entire movement with disfavor, if not actual alarm. Owing to the lack of standardization in the administration of these special activities, many superintendents have been seriously embarrassed in their attempts to set up a plan to effectually take care of the extracurricular program.

The situation has led to a number of experiments and surveys in the field of extracurricular activities, which in turn have given rise to a considerable body of educational literature[1] bearing upon the subject. The problems attached to the administration of these special activities, however, are far from being settled, and the analysis which follows of the duties which principals and superintendents actually perform in connection with them, is particularly significant.

Attention was called in the preceding article (see AMERICAN SCHOOL BOARD JOURNAL, June, 1929) to the fact that the total of 70 different duties performed by public-school administrators in connection with the curriculum was relatively small, in the light of the general emphasis which has been recently placed upon curriculum revision, and in comparison with the numbers of duties performed in other major fields of administrative activity. In this same connection it is interesting to note that the larger total of 79 different duties was performed in connection with the administrations of special activities. These duties have been classified as follows:

	Duties
1. Student organizations and social activities	25
2. Athletic activities	17
3. Assemblies	24
4. School publications	5
5. Graduation programs	8

As it is very difficult to draw a sharp line of cleavage between activities which are considered to be regular, and those which are held to be special, the classification indicated above is one for convenience in literary discussion rather than from any sound functional basis. Numerous other duties which have been classified elsewhere in the administrative program might easily have been placed in this group. This is particularly true of the duties to be treated later under the general heading of *Special Services*. Despite the considerable bulk of the total set of special duties, it should be noted as the discussion proceeds that a very considerable number of them are of minor administrative importance. This will become more evident as we turn to a more detailed consideration of the individual duties.

1. Student Organizations and Social Activities

A very considerable number of administrative duties are associated with the general promotion of student clubs and special activities. Twenty-five such duties came to light during the course of the present investigation. These 25 duties are listed in Table XXXVI, which is arranged upon the same plan as the preceding tables presented in this series of articles. That is to say, the duties are ranked according to the relative numbers of the 278 superintendents who performed them during the year of investigation, the most commonly performed duties appearing first. Table XXXVI also shows the percentage of general principals, high-school principals, and elementary principals respectively who performed each of the 25 duties. For example, the first duty listed, *Attend socials, parties, programs, etc.*, was performed by 95 per cent of the superintendents, by 100 per cent of the general principals, by 93 per cent of the high-school principals, and by 81 per cent of the elementary-school principals. The least commonly performed duty is this group, *Organized school store*, was performed by 5 per cent of the superintendents, 2 per cent of the general principals, 10 per cent of the high-school principals, and 10 per cent of the elementary principals.

The list of duties given in Table XXXVI includes a considerable number of duties pertaining to the organization of student groups which are essentially of the same character. Only one of them, and that not a popularly performed one, *Restrict secret societies*, is considered to be of primary administrative importance (see final column in Table XXXVI). The great majority of them are performed upon a yearly or a part-yearly basis (see next to last column in Table XXXVI). In practically all of the groups of duties thus far considered, the superintendent of schools, on the average, has performed a greater number of duties than any of the other school executives. This is not true with the duties pertaining to student organizations. The high-school principals exceed all other groups with an average of 41 per cent (see averages listed at the foot of Table XXXVI). Frequently, the peculiarity of the individual duty determines its favor with the different school executives. The general principals, for example, exceed all others in performing (100 per cent) the duty *Attend socials, parties, programs, etc.* The high-school principals are exceptionally favorable to the duties *Attend student meetings*, and *Organize accounting system for student organizations*. The elementary principals are quite generally less concerned with the list of duties than the other school administrators, with two exceptions in each of which they quite outstrip the others. These two duties are *Organize boys' club* and *Organize school bank*.

As one scans the list of administrative duties pertaining to student organizations and social activities, it becomes quite evident that public-school administrators devote a considerable amount of attention to them in spite of their comparatively low administrative importance. The scheduling, regulating, and supervising of class parties come under the immediate direction of something like six out of ten administrators. Literary and debating societies are given considerably less attention than other types of student meetings. Apparently there is little correlation between the values of duties listed in Table XXXVI and the number of public-school administrators who perform them. From the point of view of their administrative value many of these duties might well be delegated to the care of other school officials.

2. Athletic Activities

One of the widely discussed educational problems refers to the administrative control of public-school athletics. The place of athletics seems to be firmly established in both high and elementary schools, but the type of administrative control which may best prevail is still a matter of varied opinion. Yet, in spite of the uncertainty as to the exact form of athletic control, there has been a steady tendency to subject athletics more and more directly to the administrative control of public-school officers, and to consider athletic activities as being closely allied to, if not, an actual part of the regular curriculum. The important part which the administration and supervision of athletic activities plays in the annual program of public-school superintendents and principals is exhibited in Table XXXVII.

Table XXXVII lists 17 administrative duties which relate to the control of athletic activities and shows the comparative number of superintendents, general principals, high-school principals, and elementary-school principals who performed them during a given year of investiga-

TABLE XXXVI. ADMINISTRATIVE DUTIES PERTAINING TO STUDENT ORGANIZATIONS AND SOCIAL ACTIVITIES

(Frequencies are *d* for daily, *w* for weekly, *m* for monthly, *y* for yearly, y^2 for two times a year, etc. Values are 1 for primary, 2 for average, 3 for minor, and 0 for no importance.)

DUTY	Percentage of Administrators Performing				Median Frequency	Median Value
	Supt.	Gen. Prin.	H. S. Prin.	E. S. Prin.	Supt.	
1. Attend socials, parties, programs, etc.	95	100	93	81	*m*	2
2. Attend student meetings	80	68	90	46	*m*	2
3. Promote outside activities for students	63	65	60	32	y^3	2
4. Establish rules for class parties	62	69	68	24	*y*	2
5. Supervise conduct of school parties	61	77	67	46	y^4	3
6. Act as faculty adviser	60	65	68	46	*m*	2
7. Appoint sponsors for classes	55	57	65	10	*y*	2
8. Schedule school parties	54	48	59	32	y^3	3
9. Supervise class organizations	53	66	59	29	y^2	2
10. Assist students prepare toasts	48	43	46	20	y^3	3*
11. Chaperone students	46	62	58	37	y^2	3
12. Supervise selection of memorial gifts	42	32	38	10	*y*	3
13. Provide for debate officials	36	22	45	7	y^2	2
14. Organize accounting system for students organizations	29	20	45	7	*y*	2
15. Organize debating clubs	23	14	24	10	*y*	3
16. Organize glee clubs	22	20	21	12	*y*	3
17. Make trip with debating clubs	22	9	15	2	*y*	3
18. Organize honor societies	16	12	24	15	*y*	2
19. Organize boys' clubs	13	11	21	32	*y*	2
20. Make trip with glee clubs	13	11	12	5	y^2	3*
21. Conduct literary societies	12	15	12	10	*m*	3
22. Conduct debating clubs	11	12	15	10	*y*	3
23. Restrict secret societies	9	6	13	5	*y*	1*
24. Organize schools banks	7	3	8	12	*y*	2
25. Organize schools stores	5	2	10	10	*y*	2
Average	37	36	41	22		

*More than one half of the judges assigned this value.

[1] See, for example, Foster, C. R., Extracurricular Activities in the High School, Johnson, 1925. McKown, H. C., Extracurricular Activities, Macmillan, 1927. Roberts, A. C., and Draper, E. M., Extraclass and Intramural Activities in High School, Heath, 1928. Roemer, J., and Allen, C. F., Readings in Extracurricular Activities, Johnson, 1929. Terry, P. W., Extracurricular Activities in the Junior High School, Warwick & York, Inc., 1926. Twenty-fifth Yearbook of the National Society for the Study of Education, "Extracurricular Activities," Public School Publishing Co., 1926.

TABLE XXXVII. ADMINISTRATIVE DUTIES PERTAINING TO ATHLETIC ACTIVITIES
(Arrangement and symbols as in Table XXXVI.)

DUTY	Percentage of Administrators Performing				Median Frequency	Median Value
	Supt.	Gen. Prin.	H. S. Prin.	E. S. Prin.	Supt.	
1. Attend athletic games	94	96	100	78	m^2	2
2. Establish athletic policies	81	82	85	49	y	1*
3. Give talk at pep meetings	81	79	88	32	y^3	2
4. Make trip with athletic teams	78	86	77	50	y^5	3
5. Devise means of raising athletic money	67	72	67	27	y^2	2*
6. Arrange athletic schedules	62	71	67	37	y^2	2*
7. Secure officials for athletic games	61	70	65	41	m	2
8. Arrange for transportation of teams	56	72	64	41	y^6	3
9. Administer athletic letters for teams	53	51	64	22	y	3
10. Supervise athletic contests	51	72	67	73	m	3
11. Serve county athletic associations	42	39	39	7	y	2
12. Promulgate county track and field meets	42	32	39	24	y	3
13. Act as host to visiting teams	41	54	46	20	y^6	2
14. Officiate in athletic contests	39	43	37	45	y^4	3
15. Mark athletic grounds	25	35	23	27	y^2	0*
16. Coach athletic teams	24	43	29	46	m	0*
17. Take part in athletics	21	32	28	41	m	0
Average	54	61	58	39		

*More than one half of the judges assigned this value.

tion. The duties are arranged as in the preceding table on the basis of the number of superintendents who performed them. The duty *Attend athletic games* was by far the most popular as well as most frequently performed duty, it being performed by 94 per cent of all superintendents, and by 100 per cent of all high-school principals.

Taking the group of athletic activities as a whole, there is a high average performance on the part of public-school executives, one of the heaviest of any of the groups of administrative duties yet mentioned. Even the two lowest duties mentioned, *Coach athletic teams and Take part in athletics* were performed by about a third of the entire group of superintendents and principals. As usual, certain duties appeal more to one type of administrator than to another, although the superintendents, general principals, and high-school principals are remarkably alike in their contacts with athletic duties. The elementary principals as a group, are considerably less active than the other three groups, although they lead all others in connection with four duties, namely, *Supervise athletic contest, Officiate in athletic contest, Coach athletic team*, and *Take part in athletics*. The elementary principals are thus apparently in more immediate contact with athletic activity than any of the other groups. In the judgment of the fifty judges who rated the various duties as to their administrative value, the four duties which are favored by the elementary principals have a little administrative value. Two of them were rated to be of little administrative importance, and the other two were rated as having no administrative value.

As a whole the seventeen athletic duties were rated low in administrative importance. Only one of them, *Establish athletic policy*, was judged to be of primary administrative importance. That this same duty looms as one of distinct practical importance to the school executives concerned, is indicated by the fact that it is the second most commonly performed duty of the entire list. Far too many of the duties pertaining to athletics, such as *Secure officials for athletic game, Arrange for transportation of team*, and *Officiate in athletic contest*, have little if any administrative value. They are typical of the type of administrative duty that seems to be performed by principals and superintendents, chiefly because no arrangement has been made for any one else to do it. The great bulk of these duties might better be performed by specially prepared athletic directors.

3. Assemblies

Among the administrative duties which have fallen to the lot of public-school executives, in large part because no provision has been made for any other school officer to take care of them, is a group of duties which pertain to the organization and supervision of school assemblies. Very little concrete evidence has been gathered concerning the value of public-school assemblies, but there is definite evidence to indicate that the practice of holding assembly meetings at frequent intervals is very common in the United States. The extent to which public-school administrators have become involved in the management of assemblies is revealed in Table XXXVIII.

Table XXXVIII is made up of 24 duties which pertain to the conduct of assemblies and certain closely related activities. From a study of Table XXXVIII, it may be seen that public-school administrators take an active part in the administrative care of assemblies. The group of 24 assembly duties is performed on the average by 48 per cent of the superintendents, 54 per cent of the general principals, 50 per cent of the high-school principals, and 40 per cent of the elementary-school principals. The type of school administrator seems to make little difference in the performance of this group of duties, save that, as usual, the elementary-school principals tend to perform comparatively fewer duties. This fact is particularly true of the duties which involve speaking, or the care of speakers. On the other hand, a few of the duties, chiefly those of little administrative importance, are performed more commonly by the elementary-school principals than by any other group. These duties include, *Lead assembly singing, Conduct flag raising*, and *Operate moving-picture machine*.

There is little that can be said concerning the desirability of devoting so large an amount of general administrative control to the supervision of assemblies. Only two of the duties listed in Table XXXVIII were rated as being of primary importance by the fifty judges who voted upon their administrative values. These were, *Give inspirational talk at assembly* and *Get speakers to address assemblies*. That these two duties are generally recognized as being important is indicated by the fact that, with one exception, they are the most commonly performed duties of the entire 24 which pertain to assemblies. Aside from these two duties, and certainly for those which were voted to be of little or of no administrative importance, it would be a matter of administrative economy if the duties pertaining to the supervision of assemblies were performed by subordinate school officers.

A number of the duties listed in Table XXXVIII throw additional light upon the varied vocational activities which public-school administrators are called upon to perform. For example, *Secure entertainment for school speaker* was performed by four out of ten superintendents; and *Recite the Lord's Prayer* by two out of ten superintendents. For some reason, possibly from fear of public opinion, or from lack of opportunity, the Lord's Prayer was recited less frequently by superintendents than by any of the other executive officers.

Considering the nature of the activity involved, a number of the duties which pertain to the control of assemblies occupy the attention of a surprisingly large number of superintendents. Such, for example, are the duties: *Assign seats in assembly*, which was performed by one third; *Lead assembly singing*, which was performed by one fourth; and *Supervise decoration of assembly room*, which was performed by one fifth of the superintendents concerned. Such duties might well be delegated to other officers.

TABLE XXXVIII. ADMINISTRATIVE DUTIES PERTAINING TO ASSEMBLIES
(Arrangement and symbols as in Table XXXVI.)

DUTY	Percentage of Administrators Performing				Median Frequency	Median Value
	Supt.	Gen. Prin.	H. S. Prin.	E. S. Prin.	Supt.	
1. Introduce speakers	92	86	89	63	m	2
2. Give inspirational talk at assemblies	86	91	92	63	m	1*
3. Get speakers to address assemblies	82	77	89	59	m	1
4. Conduct assemblies	73	83	85	71	m	2
5. Speak at special programs	70	68	65	32	y^3	2
6. Provide for educational week	70	59	59	54	y	2
7. Plan assemblies	65	93	89	81	m	2
8. Act as judge in school contests	59	37	51	24	y^2	3
9. Present prizes to winners	58	49	56	32	y^2	2
10. Help pupils find material for programs	56	71	67	41	y^6	3*
11. Entertain school speakers	53	39	49	20	y^2	2
12. Provide for special school days	47	48	37	37	y	2
13. Select students for contests	42	48	44	37	y^2	3*
14. Attend interschool literary contests	42	32	42	17	y^2	2
15. Secure entertainment for school speakers	41	28	32	20	y^2	2
16. Take care of seating arrangements	40	66	56	46	y^2	3*
17. Supervise marching	35	63	21	59	m	3*
18. Assign seats in assemblies	33	68	64	37	y	3
19. Lead assembly singing	24	25	20	32	m	0
20. Administer spelling contests	24	35	19	29	y^2	3
21. Recite the Lord's Prayer	22	45	29	24	m	3
22. Supervise decoration of assembly rooms	20	37	24	24	y^2	3
23. Conduct flag raisings	19	20	17	32	y^3	2
24. Operate moving-picture machine for assemblies	9	17	9	17	y^5	0*
Average	48	54	50	40		

*More than one half of the judges assigned this value

4. School Publications and Graduation Programs

Finally, there are a few administrative duties which pertain to the care of school publications and graduation programs which fall in the general field of special activities. Thirteen of these duties have been combined to form Table XXXIX. The most commonly performed duty in this group is *Obtain commencement speaker*, and the least commonly performed one is *Edit school publication*. Very few of this group of duties are of sufficient importance to merit special mention. They are performed less frequently by the elementary-school principal than by any of the other school executives. The high-school principal has more to to with the control and supervision of school publications than any

(Concluded on Page 128)

TABLE XXXIX. MISCELLANEOUS ADMINISTRATIVE DUTIES PERTAINING TO SCHOOL PUBLICATIONS AND GRADUATION PROGRAMS
(Arrangement and symbols as in Table XXXVI.)

DUTY	Percentage of Administrators Performing				Median Frequency	Median Value
	Supt.	Gen. Prin.	H. S. Prin.	E. S. Prin.	Supt.	
1. Obtain commencement speaker	93	80	58	29	y	1*
2. Have commencement printing done	86	85	66	27	y	2
3. Make out program for commencement	86	88	71	32	y	2
4. Conduct graduation exercises	84	74	61	37	y	1
5. Select minister for baccalaureate	77	68	46	10	y	2
6. Secure music for commencement	69	62	46	29	y	3
7. Drill seniors for graduation exercises	61	74	63	29	y	3
8. Write articles for school publications	59	34	65	17	y^1	2
9. Supervise school publications	35	26	44	22	m	2
10. Help decorate for commencement	30	55	32	27	y	0*
11. Select editors	29	22	36	15	y	3
12. Read proof for school publications	28	25	36	20	m	3
13. Edit school publications	12	14	10	10	m	0*
Average	58	54	49	23		

*More than one half of the judges assigned this value.

Getting Research into Practice in a Large School System

John L. Stenquist, Baltimore, Maryland

(Concluded from November)

Time- and Labor-Saving Devices in Testing Programs

In carrying on comprehensive testing programs in school systems under everyday conditions, the problem of *how to get through the work involved* becomes a very basic consideration; hence, the significance of all methods and devices that can in any way reduce the burden imposed upon the teacher. Moreover, every device that does mechanically what was formerly done by hand, tends to reduce the number of errors. The problem is twofold: how to carry on an adequate program with the help available, and yet maintain a sufficient degree of reliability. For the importance of reliability in any type of measurement must always, in the nature of the case, supersede all its other characteristics. To the extent that it is unsatisfactory, the resulting measurement will, of course, be unsatisfactory. No competent worker in the field of mental measurement would consider sacrificing reliability in a test if it is humanly possible to avoid doing so. But in spite of all this, it is none the less true that if testing means an inordinate amount of extra work — minute and statistical — it defeats itself.

In much that has been said and written in recent years about the virtues of the measurement movement in education, too often the question, Is a given program or test or other device practicable under ordinary school conditions in typical school systems?, is ignored. Granting first importance to reliability, there still remains for every test, the consideration, Can this instrument be made use of under practical field conditions as they exist in typical school systems? To the officer on the firing line it is quite as important that the artillery shall be operated under conditions *as they are* as is the assurance that they are highly meritorious by virtue of their scientific excellence. Rightly or wrongly, in practical schoolwork, we are forced to take into account heavily the practicability under field conditions of every new test and every new device. It is not enough to know that it works or that it is valid and reliable. It is also necessary that these things are true *under field conditions.*

In the practical use of tests in the schools, therefore, every practical scheme for reducing time and labor, so long as reliability and validity are maintained, is of utmost significance. Fortunately, these items are generally positively correlated — those tests which are most easily given and scored can generally be given in greater

THE CLERICAL DEPARTMENT OF THE BALTIMORE BUREAU OF RESEARCH

quantity and hence, ordinarily exhibit greater reliability. Undoubtedly much of the value of measuring devices of various kinds in education is not now capitalized because of the labor and time involved. We test a child four minutes all too often when we know we should test him forty minutes to secure an adequate reliability of results, but the amount of labor and time of scoring involved frequently holds us to the four-minute limit, since common schools must ever deal with great numbers.

Simple Tests versus Complicated Tests

In the choice of tests, for example, if it can be shown that validity and reliability are equal in the case of several tests, that one easiest to give and score is generally the one to choose. There is, to be sure, the constant danger that testers will be tempted to choose a test *merely* because it is easy to score or inexpensive. Such practice is indefensible. On the other hand, it seems very likely that tests which are easily scored and easily given can be made quite as reliable as those which are more awkwardly constructed. There is considerable variation among the various tests at present available, and there is promise that something far more practicable lending itself to machine methods will eventually be offered. For the present, the intelligent director of testing work can at least very carefully scrutinize the obtainable tests, and can often make a selection that will mean the difference between a testing program that is considered a success by teachers as against one that prejudices the entire system against the testing movement. Indeed this is what happens all too frequently. Every efficient school superintendent knows that a testing program that is not well sold to the teachers is likely to be a boomerang. Let us hope the day is not distant when the drudgery of testing can be done by mechanical devices.

Design of new tests. In designing tests which are highly desirable for many reasons, it is possible with intelligent direction to so plan them that the work entailed in their use will be at a minimum instead of at a maximum, with the reliability constant. This involves considerable preliminary work and experimentation on the part of the persons who are constructing the tests. To build a new test is a formidable undertaking if the test is to be worth anything. It is undoubtedly true that many homemade tests give highly fictitious results that are frequently uninterpretable. On the whole, when standardized tests are available, it seems more economical to use them. However, by following the test practices set forth by Ruch, Paterson, and a number of others,[1] greatly improved examinations can be made, entailing a greatly reduced amount of work for the teacher if the preliminary handling is carefully carried out. The criteria which a satisfactory test must satisfy have been well set forth by the writers mentioned. These include ease in the giving and scoring combined with reliability. What actually happens as a rule in a large school system is that persons in charge are forced to choose tests which are at least fairly easily given and scored, the alternative too frequently being that no laborious tests can be given at all. This is a serious matter from a scientific standpoint, as too often the quality of testing is sacrificed by the pressure for immediate results.

Keys. The importance of so designing the printing of a test that really efficient keys can be used should be obvious, but it is frequently overlooked. In our work we have a policy of always procuring the best possible keys even at somewhat extra expense as a means of reducing labor and increasing accuracy of results. Savings in making the necessary cuts for printing keys is felt to be false economy.

The Baltimore Plan

From an administrative point of view, the planning of programs of testing is, of course, important. In Baltimore, at present, we have adopted what we have called a system of inventory testing at the beginning of each school term. Ordinarily, a test of reading, arithmetic, and possibly intelligence, sometimes supplemented by a test of spelling or English is given at the beginning of each term. This is done particularly for the improvement of instruction, our theory being that a teacher can get the maximum benefit of test results if she has information for a new class as it comes to her. Theoretically, it would be desirable to also test the class at the end of each term. This has not been possible because of the work entailed. In the case of midyear testing, however, the beginning and end results are utilized for both purposes. Eventually we will probably conduct each year a third city-wide testing at the June close of school. Each of these programs results in a city-wide survey for the subjects involved, and hence they are of marked importance for the board of superintendents as well as for the classroom teacher.

[1]Ruch, Improvement of the Written Examination; Ruch and Stoddard, Tests and Measurements in High-School Instruction; Paterson, Preparation and Use of New-Type Examinations.

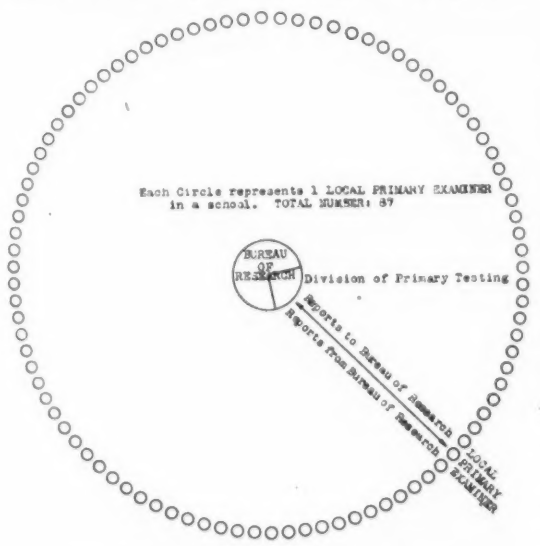

Each Circle represents 1 LOCAL PRIMARY EXAMINER in a school. TOTAL NUMBER: 87
BUREAU OF RESEARCH
Division of Primary Testing
Reports to Bureau of Research
Reports from Bureau of Research
LOCAL PRIMARY EXAMINER

FIGURE 1
ORGANIZATION OF CITY-WIDE PRIMARY TESTING PROGRAM

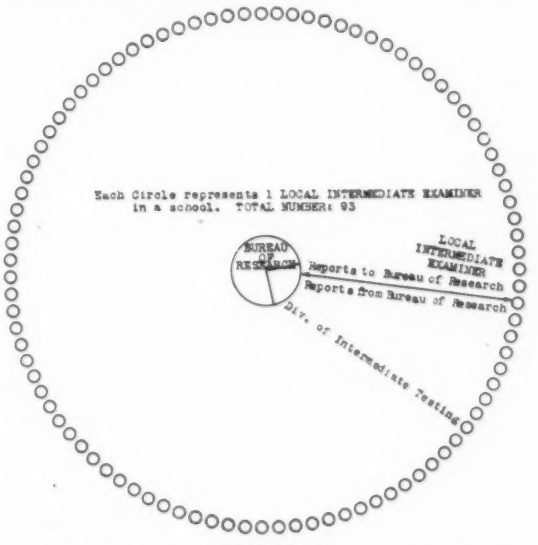
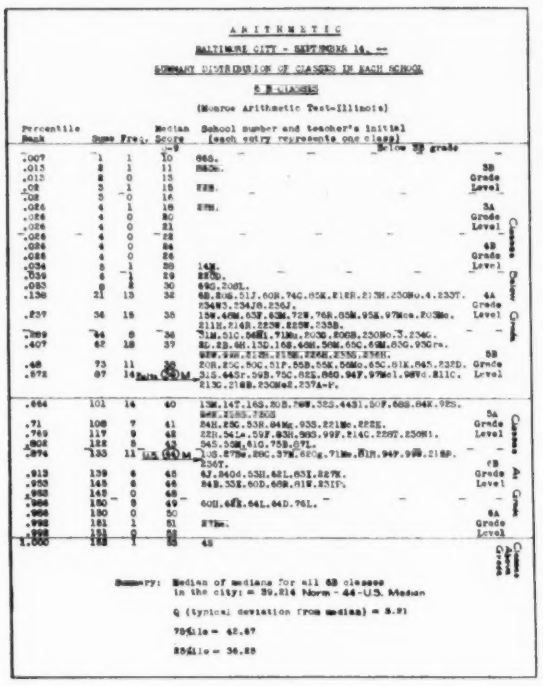

Each Circle represents 1 LOCAL INTERMEDIATE EXAMINER in a school. TOTAL NUMBER: 93
BUREAU OF RESEARCH
LOCAL INTERMEDIATE EXAMINER
Reports to Bureau of Research
Reports from Bureau of Research
Div. of Intermediate Testing

FIGURE 2
ORGANIZATION OF CITY-WIDE INTERMEDIATE TESTING PROGRAM



ARITHMETIC

BALTIMORE CITY - SEPTEMBER 16, --

SUMMARY DISTRIBUTION OF CLASSES IN EACH SCHOOL

6 B - CLASSES

(Monroe Arithmetic Test-Illinois)

Percentile Rank	Sums	Freq.	Median Score	School number and teacher's initial (each entry represents one class)
				Below 6B grade
.007	1	1	10	66S.
.015	2	1	11	84Sc.
.015	2	0	13	
.08	5	1	15	72H.
.08	5	0	16	
.026	4	1	18	87M.
.026	4	0	20	
.026	4	0	21	
.026	4	0	22	
.026	4	0	24	
.026	4	0	26	
.034	5	1	28	14K.
.039	6	1	29	85Sh.
.083	19	8	30	64G.70H.
.136	21	13	32	6B.8G.51J.60R.74G.85K.91H.21M.25GHo.4.233T.
.237	34	15	35	4A Grade Level 83485.734J6.256J.
.289	44	8	36	13H.46M.63F.63M.72M.76H.85M.95H.97Mco.FGHo.
.407	62	18	37	211H.214B.223M.225M.235B.
.48	73	11	38	71M.51C.86H1.91Ho.FGGB.FGGB.25GHo.3.234G.
.572	87	14	39	5L.2B.6H.13G.16B.46M.59K.65C.69H.85G.95Cro.
				6BW.99H.812M.815K.826E.835L.836H.
				6B Grade Level 20R.25C.80C.51F.85B.55K.56Ho.65C.81K.845.225D.
				31S.643r.69B.75C.8EL.86G.94F.97Mc1.98Hd.811C.
				21G.214B.25GMc2.237A-F.
.664	101	14	40	13M.14T.16S.20B.76H.82S.4431.50F.68S.84K.9ES.
				5A Grade Level 84H.25G.53H.84Mg.93S.221Mc.222E.
.71	108	7	41	22R.54L.59F.63H.99S.99F.214C.226T.250H1.
.769	117	9	42	54S.55M.61G.75B.87L.
.804	122	5	43	13G.27Mc.28C.37M.68Cg.71Mc.81H.94F.99B.218P.
.874	133	11	44	236T.
				6B Grade Level
.913	139	6	45	6J.84Gd.53H.62L.65L.82K.
.952	145	6	46	84B.53E.60D.66R.81W.82Ir.
.952	145	0	48	
.966	150	8	49	60H.6Ah.64L.64D.76L.
.966	150	0	50	
.998	151	1	51	87Mc.
.998	151	0	52	5A Grade Level
1.000	152	1	55	4S

Summary: Median of medians for all 6B classes in the city: = 39.814 Norm - 44 - U.S. Median

Q (typical deviation from median) = 8.91

75%ile = 42.67

25%ile = 36.88

FIGURE 3

The point to be noted here is that by this rather well-perfected organization an enormous amount of work becomes possible. A city-wide testing program for a city of almost a million population is a huge undertaking at best, but our method has worked, and it is felt that we have a more detailed, uniform, and systematic body of data for all of the children in the elementary schools than we have ever had before. The relative and absolute standing[2] of every 6B class in arithmetic, (see Fig. 3) is known to the supervisors and superintendents as soon as the inventory tests are summarized at the Bureau of Research. In the same way the relative and absolute standing of every child in her class is known to the teacher at the beginning of each term. A summary of the performance of every class and indeed of every child is on file at the Bureau of Research in the form of a carbon copy of the Teachers' Class-Analysis Chart.

Centralized control thus is an important factor in this as in similar undertakings. While the testing work is directed from a central bureau, teachers and principals everywhere are stimulated and encouraged in any minor testing which they wish to carry on. Figure 4 represents the general plan of organization. The demand for testing may originate practically at any level but always terminates at the Bureau of Research. The systematic testing, however, originates with the board of superintendents in cooperation with supervisors and the Bureau of Research. Great care is taken not to impose tests, but to plan for those which are wanted and generally requested by principals and teacher.

Importance of Minute Direction

Since testing is composed of a great mass of detail work, much of it scientific, the importance of efficient direction of testing programs is obvious. A skilled director of testing work should develop in great detail each minute step that is necessary before work is begun. Above all, such a person must represent the scientific point of view and in a city-school system in particular must be capable of devising as many short cuts as possible. He must be a teacher of teachers, and as is the case in any new line of work, considerable salesmanship on his part is necessary. The value and significance of the work must be constantly made clear to the teachers and principals. Details often become of paramount significance, for even a minute detail overlooked may ruin an entire program. Careful planning will eliminate much needless work for the teacher.

Making maximum use of printed forms: A considerable amount of work can be saved and the remaining work facilitated by making the maximum use of printed forms. Often simple color scheme in papers save time and labor at no increased cost. While in the average school system, funds for printing are always limited, it can easily be shown that money intelligently spent for printing is really a saving, because it

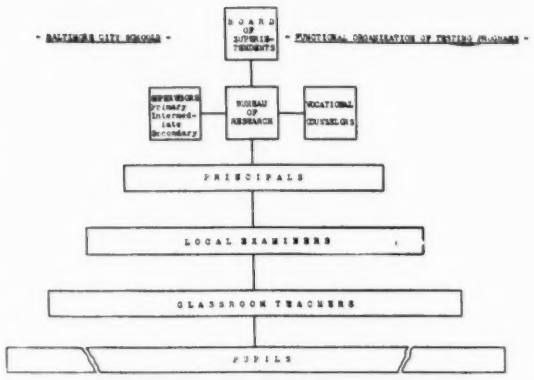


FIGURE 4
FUNCTIONAL ORGANIZAZTION OF THE TESTING PROGRAM

economizes time which should be spent as largely as possible in actual teaching, yet contributes toward test results, whose importance no one questions. Here again is an example of what seems to be a trifling detail, but which we have found really makes a difference: Well-spaced and neatly printed forms tend to sell themselves as against blurred and faint mimeographed copies too often utilized under a mistaken notion of economy.

Distribution of materials. Even so small a detail as the efficient distributing of materials, test blanks, and so forth from the central office, is a matter of importance. In Baltimore, this is now done through the central warehouse system of distributing trucks. By planning the work ahead, making pro rata allotments to each school, and forwarding the material package form, sometimes sealed and frequently not, directly to the local examiner in each school, the work is greatly facilitated.

Better Use of Test Results

How to make adequate use of test findings has been a major problem ever since their invention. Methods tend to be sporadic, and to differ from school to school and city to city. Scores for various tests are in different units, and it is often a matter of considerable difficulty to compare results of one test with those of another and escape statistical pitfalls. Another item of paramount importance is that test results shall get into the hands of the teachers *promptly and*

(Continued on Page 131)

[2]By relative rating is meant how the classes of the city compare with each other; by absolute standing is meant how the classes compare with national norms based on the population of the United States. Where standardized tests are used, these are immediately available; where homemade tests are used, only relative ratings are possible.

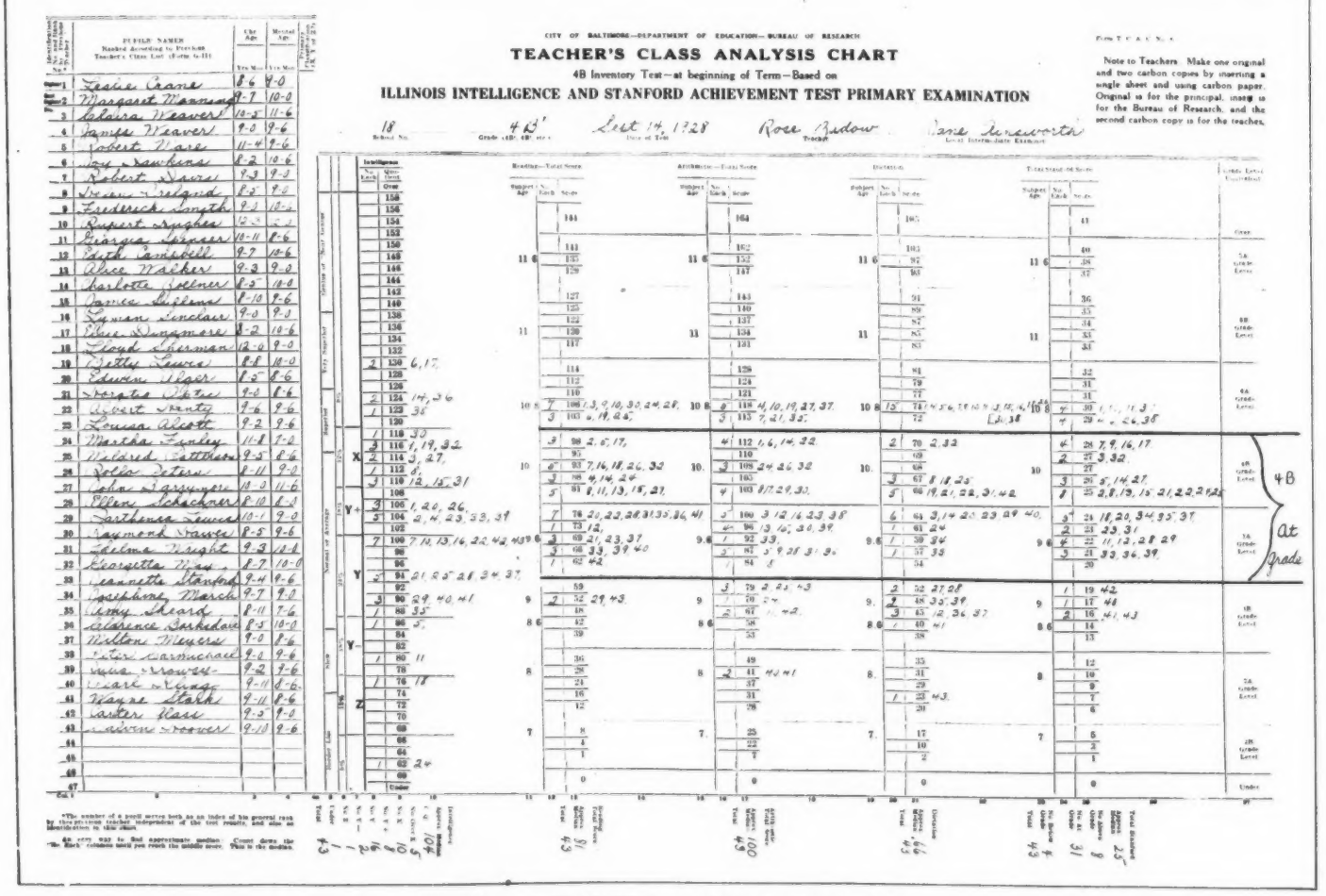

CITY OF BALTIMORE—DEPARTMENT OF EDUCATION—BUREAU OF RESEARCH
TEACHER'S CLASS ANALYSIS CHART
4B Inventory Test—at beginning of Term—Based on
ILLINOIS INTELLIGENCE AND STANFORD ACHIEVEMENT TEST PRIMARY EXAMINATION
18
4B'
Sept 14, 1928
Rose Zudow
Jane Ainsworth
Note to Teachers. Make one original and two carbon copies by inserting a single sheet and using carbon paper. Original is for the principal, insert is for the Bureau of Research, and the second carbon copy is for the teacher.
4B at grade

FIGURE 5. A TEACHER'S ANALYSIS OF HER CLASS

The Legal Aspects of the Rights and Powers of School Officials with Respect to Taxation

Wayne W. Soper, Albany, New York

Boards of education are composed of lay members, who, from the very nature of their diverse occupations, are not familiar with, nor cognizant of, many of their rights and powers as boards of public education. The school administrator is frequently uninformed in the principles pertaining to the legal phases of his position. A very fruitful field of difficulties is that of taxation. In spite of constitutional provisions and legislative enactments defining the powers of school officials with regard to taxation, much litigation has arisen over the rights and powers of those officials in the raising of school revenues by taxation. The reason for this is twofold: (1) Much of the machinery of taxation functions through other officials, most of whom act in a ministerial capacity. (2) The general legal principles of taxation as it applies to school revenues have not been simplified to the point of understandability by school officials.

The school official is not interested in all the equities and administrative details which permeate the subject. To the extent that these principles can be formulated in his own language he is able and willing to make use of them. Too long has this phase of school administration been neglected. There are many legal principles of taxation which, if simplified, serve as admirable danger signals beyond which boards of education and school administrators should not venture. There are other principles which define rights heretofore little exercised by school officials, a knowledge of which should lead to the proper exercise of those rights.

Nature and Source of Taxing Power of School District

The administrative unit of the school system is the district. This may be a county district, a consolidated district, or a city-incorporated district. The discussion will revolve around this unit. The legislative body governing this unit is the board of education. Their executive officer is commonly the superintendent of schools. There are several principles pertinent to this unit and its officials, which should be understood before a clear conception can be had of what is to follow.

1. The school district, or other local subdivision, authorized to conduct the schools has no inherent power of taxation.[1] This power is inherent in a sovereign state. In order to perform the function of educating its future citizens more efficiently, the state early delegated much of the control of education to the local subdivision. But this delegation was not a surrender of that control; it was an operation of sovereign power through agencies responsible to the state.

2. The extent of the taxing power is unlimited. "The taxing power, acting within its legitimate sphere, is one that knows no stopping place until it has accomplished the purpose for which it exists. . . ."[2] While the principle upon which taxation is imposed by the state is often incorporated into the constitution, the extent to which it may be carried is left unlimited except by legislative discretion. A few recent constitutional changes have placed some restrictions on the amount of taxation.

Can the legislature, either acting for itself or through its agencies, impose a tax upon a locality without the consent of the people of that locality or against their wish? This may be done in order to secure an equal and uniform system of education. In two typical cases[3] the right of the legislature to impose a tax was upheld. Each case has reference to the establishment of a high school. The chief contention by the school officials was that their district could not be compelled to build a high school and maintain it without the consent of those who were to pay for it. But the courts both upheld the state's right to impose the tax, because the high school is a beneficial educational addition to common-school educational advantages. No less eminent an authority than Judge Cooley[4] pronounces the dictum that "the state reserves to itself the means of giving complete effect to laws establishing the public-school system, even though a majority of the people of the district, deficient in proper appreciation of its advantages, should refuse to take upon themselves the expense necessary to give them a participation in its benefits." There is abundant legal proof of the state's right to compel local taxation for school support, through a long line of decisions.

May the state take from the locality the power of taxation for schools? This may be done. If necessary, it may remove local taxation entirely — taxation through the agency of the school district — and substitute therefore state taxation on the subjects and property within the district in order to support schools.[5] This is because education is not a purely local matter, and the state may adopt any method it pleases to effect its desires.

3. It is a settled principle of constitutional law, fortified and supported by a long and unbroken series of decisions by courts of the last resort, that taxes can be levied only for public purposes.[6] It has not been so easy to define "public purpose," and changed conditions may render a once public purpose nonpublic or private purposes public. Certain it is that taxes for public education are for a public purpose. Public education means not only the common schools, but also high schools, state colleges, normal schools, state universities, and agricultural colleges. Boards of trustees of private educational institutions have no right to invoke the power of taxation for their support. Yet, in a few states, the practice of giving assistance to privately owned schools out of the public purse has prevailed. But this has been done by the state and not by local boards. It must also be observed that, in such cases, the appropriation is not to the school or agency, but to the object which it serves for the state. In the absence of adequate state provision for training teachers, the state might deem it temporarily advisable to assist private colleges in training teachers. The appropriation would, therefore, be for the object of teacher training and not to the institution as such. Such instances as the above are not common, and in most of the states there are specific constitutional provisions forbidding appropriations of public funds in the aid of sectarian and private institutions of learning.

Public-school funds, on the other hand, cannot be used to aid in such extraneous projects as railway construction,[7] civic improvement, and industrial enterprises.

4. In the absence of constitutional or statutory provisions there is no limit on the amount of taxes that may be raised for school purposes. This statement elicits two questions: (*a*) May school officials include the cost of loss and collection in raising school funds? (*b*) Does the amount of bonded indebtedness affect the amount to be raised for current expenses?

In most jurisdictions, boards of education may include the cost of and the loss incident to collection of the tax, but cannot do so if the levy, including these costs, will exceed the statutory limit.[8] Taxes for current expenses may be levied after the limit of bonded indebtedness has been reached. The mere levying of taxes is not incurring indebtedness.[9]

Persons and Property Taxable, and the Place of Taxation

Boards of education are responsible for providing funds with which to operate the schools in an efficient manner. Taxation is their source of revenue. It is, therefore, incumbent upon them to possess a knowledge of their rights and liabilities with respect to the persons and the property taxable within their district. Although the board may not be responsible for the acts of assessment and collection of the tax, such fact does not relieve it of the obligation to be certain that all taxable persons and property are furnishing their proportionate share of the public-school burden. To permit some property to escape its just share in the support of the schools only lays a heavier burden upon others.

In a scheme of government wherein the local political unit is intrusted with many of the functions of government, there is always the probability of one unit's trespassing upon the rights of another. In matters of taxation there have arisen numerous instances where one unit was deriving benefits at the expense of another. Particularly has this been true of school districts, the boundary lines of which have not always been well defined. In order to settle the controversies over taxable property rights, many cases have been adjudicated by the courts. The general principles that have grown out of such decisions will be presented. Such questions confront the layman and the school administrator as:

What, if any, persons may escape taxation if owning property?
Is a resident of a district taxable therein on property he owns which is located in another district?
Is the property of a nonresident taxable to him where the property is situated or where he lives?
Are people temporarily located within a district taxable therein?
Is property temporarily situated within a district taxable there? If not, where is it taxable, at the place of origin, or the place of destination
Where is property to be taxed which lies in more than one school district?
What effect has transfer of property from one district to another?
What constitutes domicile?
May property have two taxable locations? If so, which one is controlling?
If a person has two residences, which one determines his taxable domicile?
May a person change residence purposely to escape taxation in a particular district?
Does remoteness from the school center affect the tax?

A knowledge of the general principles upon which the answers to these questions rest should make for a smoother functioning of the whole machinery of taxation. It should likewise obviate much litigation and assure to each school district the tax revenues properly due it.

Persons Taxable

In speaking of persons subject to taxation, reference is made to those who own property and not to those propertyless persons dependent upon society who would not even be obligated to pay a capitation tax were one imposed — minors, insane, inmates of penal institutions,

[1]Lane v. City of Unadilla, 114 SE ((Ga.) 636; Chicago, B. & Q. R. Co. v. School District No. 57 of Kearney County, 194 NW (Nebr.) 479. Only a few cases can be cited in an article of this nature for lack of adequate space. Those interested may find numerous supporting cases in the law digests.
[2]Anderson v. Ritterbusch, 98 P. (Okla.) 1002.
[3]Eicholtz v. Martin, 53 Kans. 486; State v. Freeman, 61 Kans. 90.
[4]Cooley, Taxation, Vol. I, par. 422.
[5]183 Federal I; Straut v. School Dist. No. 1, 30 Mich. 69 State v. Board, etc., 35 Ohio St. 368; Clark v. Haworth, 122 Ind. 462.
[6]City of Tombstone v. Marcia, 245 P. 677; Board of Education v. Blodgett, 155 Ill. 441.
[7]Weightman v. Clark, 103 U. S. 26.
[8]People v. N. J. Sandberg Co., 118 NE (Ill.) 469.
[9]People v. Illinois Central R. Co., 309 Ill. 277.

(Continued on Page 104)

Educational Specifications for School Buildings

School Business Administration — Article IV — Concluded

George F. Womrath, Minneapolis

37. *Workrooms and Shops?*

How extensive shall the shops be?

What types of work shall be provided for in the junior-high-school shops? In the senior-high school?

Shall junior-high-school shops be provided with power machinery? Shall the senior-high-school shop be so equipped?

Shall toolrooms be provided?

Shall recitation benches, or lecture-room seats be provided?

What space shall be set aside for the storage of materials?

38. *What Equipment and Accessories Shall Be Provided for Each Room?*

Standardized floor plans and lists of equipment should be prepared, with the equipment definitely located on the plans.

Designs and specifications for each piece of equipment should be prepared and standardized.

Architects should be furnished with lists, designs, and specifications of equipment, and should be required to prepare and submit for approval sketch plans of all rooms, showing complete layouts, before proceeding with the regular plans. This procedure takes all the guess and estimate out of the equipment budget for a new school and avoids loss of space and lack of space for equipment in the completed building.

The accompanying floor plan of a typical kindergarten room, with all equipment definitely located, together with the list of equipment and cost, illustrates the procedure which should be followed with respect to every room in the building. Such key plans enable the superintendent to easily and quickly check the architect's plans and to figure cost of equipment:

MINNEAPOLIS PUBLIC SCHOOLS
Office of the Business Superintendent

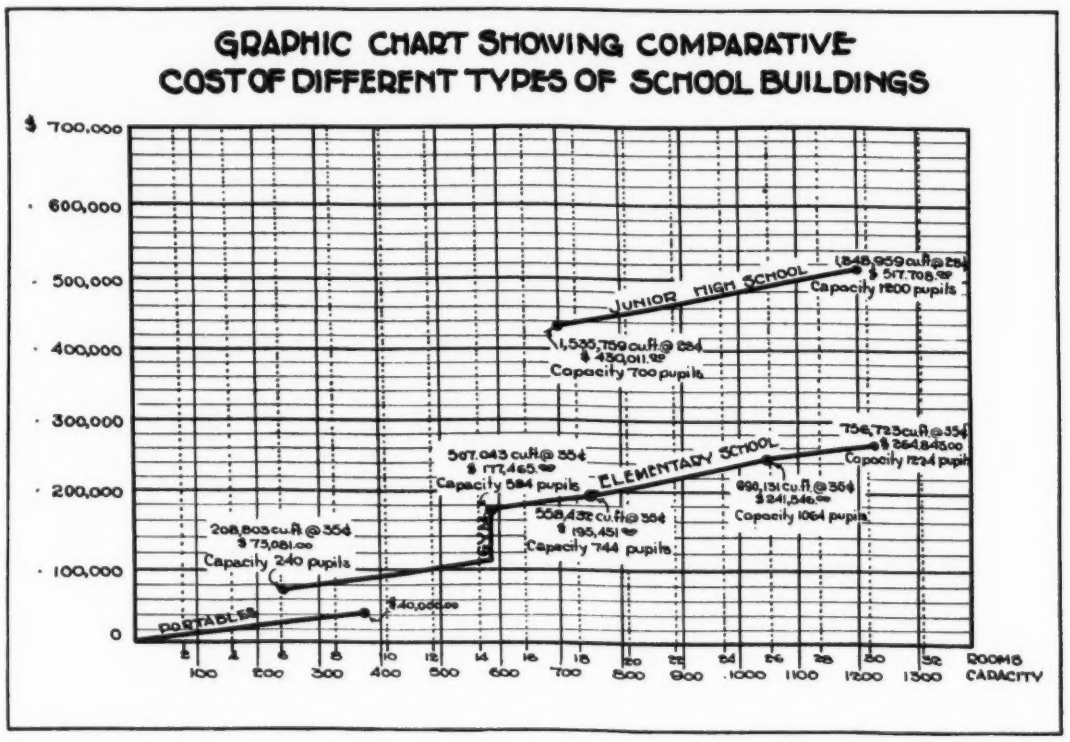
LIST OF STANDARD EQUIPMENT		KINDERGARTEN	
Quantity	*Item*	*Unit Price*	*Itemized Cost*
KINDERGARTEN:			
3	Bentwood Chairs	$ 2.77	$ 8.31
1	Teachers Desk	25.00	25.00
1	Waste-Paper Basket	1.00	1.00
1	Fern Stand	6.50	6.50
1	Reference Table	8.95	8.95
1	Pencil Sharpener	3.60	3.60
1	Kindergarten Worktable	18.00	18.00
2	Kindergarten Teachers' Tables	6.50	13.00
2	Std. Wicker Hanging Fern Baskets	5.18	10.36
8	Kindergarten Tables	8.70	69.60
36	Kindergarten Chairs, 12 in.	1.39	50.04
12	Kindergarten Chairs, 14 in.	1.39	16.68
1	Round Kindergarten Table	16.05	16.05
1	Piano—1 Bench	198.00	198.00
1	Clock, Electric	Contr.	Contr.
1	Portable Bookshelf	10.50	10.50
2	Special Cases (Built-in)	Contr.	Contr.
2	Flag Brackets	Contr.	Contr.
KINDERGARTEN WORK AND STORAGE ROOM:			
1	Kindergarten Sand Table	26.50	26.50
1	Seat and Block Box (Built-in)	Contr.	Contr.
1	Card and Paper Cutter, 12 in.	3.70	3.70
1	Wrapping-Paper Holder and Cutter, 24 in.	2.17	2.17
1	Teachers Wardrobe Case	Contr.	Contr.
	Storage Cases (Built-in)	Contr.	Contr.
1	Picture Case	Contr.	Contr.
1	Drinking Fountain	Contr.	Contr.
KINDERGARTEN TOILET:			
1	Lavatory	Contr.	Contr.
1	Soap Basket	1.50	1.50
1	Paper-Towel Holder	1.00	1.00
1	Mirror	7.64	7.64
1	Soiled-Towel Basket	1.00	1.00
1	Toilet Bowl	Contr.	Contr.
1	Toilet-Paper Holder	Loaned	Loaned
KINDERGARTEN WARDROBE:			
2	Wardrobe Poles	Contr.	Contr.
1	Umbrella Rack	Contr.	Contr.
	Total Cost of Equipment	$357.04	$499.10

39. *What Provision Shall Be Made for Future Changes in Capacity and Use of Rooms?*

The content of courses and methods of instruction are changing so rapidly that every building must be planned for flexibility of use.

40. *What Activities Usually Provided for May Be Eliminated or Modified?*

41. *For a Definition of "Elementary" and "Secondary" School Buildings, See the Following Extract From the Report of the Committee on School Building Measurements of the American Institute of Architects.*



The Committee on School Building Measurements submits the following report:

For the purpose of obtaining comparable data upon the educational utility and cost of school buildings, they shall be classified, measured, and defined as follows:

Educational Classification: School Buildings shall be classified, educationally, as:

Lower Elementary,

Upper Elementary,

High, or Secondary.

Lower Elementary: Shall be defined as a building containing class and kindergarten rooms, together with the usual accessory rooms, such as principal's office, teachers' rooms, playrooms, toilets, etc., and used for the lower elementary grades only.

Should a school building of this type be provided with assembly room, gymnasium, or other special rooms, it shall fall into the next classification.

Upper Elementary: Shall be defined as a building containing lower or upper elementary grades, and in addition to the regular class and accessory rooms, an assembly hall, gymnasium, and such special rooms as may be included for upper grade or special work, which may include elementary science, elementary industrial training, and household arts.

This classification would thus include the junior high school, the elementary, industrial, or other types of special elementary schools.

High or Secondary: Shall be defined as a building containing classrooms, recitation rooms, laboratories, and such special rooms as are necessary for classical, technical, commercial, industrial, household arts, normal, agricultural, or other purposes required for secondary or junior-college education.

The following chart and schedule was made up from a composite of the activities generally provided for in each type of school building. It should be studied for the purpose of deciding whether a glorification of school activities should necessarily follow:

a) When an elementary-school building of permanent construction takes the place of an elementary-school building of portable construction?

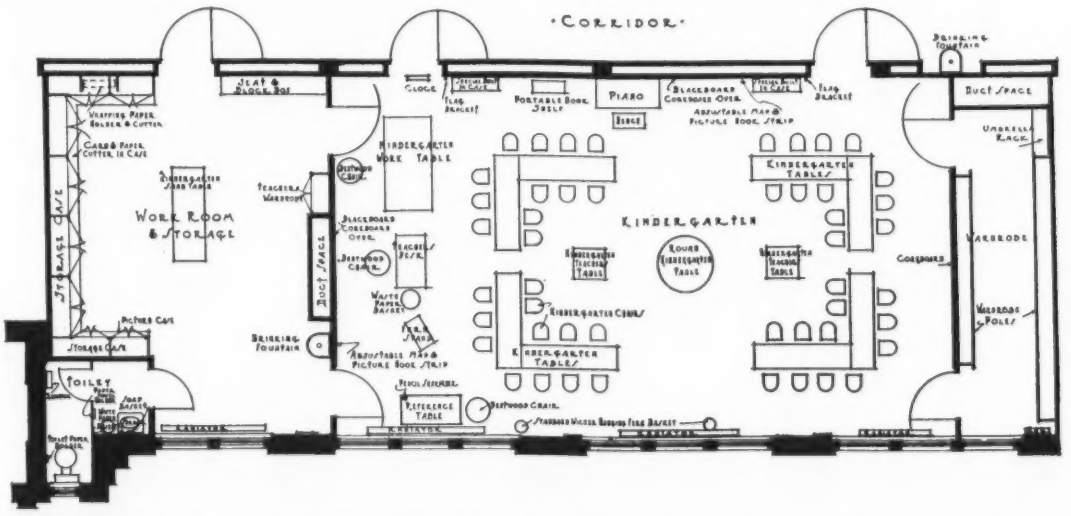
b) In the upper elementary-school program when a junior high school is constructed?

42. *Recheck every Room for:*

Pupil capacity

Size and dimensions

(Concluded on Page 122)



FLOOR PLAN OF TYPICAL KINDERGARTEN ROOM SHOWING STANDARD EDUCATIONAL EQUIPMENT

When standard floor plans are available, showing the location of all equipment, intelligent criticisms may be made from time to time, based upon experience in the actual use of the rooms. These criticisms may result in advantageous changes in size and shape of rooms, and changes in kind, amount, and location of equipment. There should be a floor plan for every room, showing location of all equipment.

The Payroll Procedure for the Public-School System

Leonard L. Bowman, Santa Barbara, California

About three billions of dollars are spent annually for public education in the United States. Approximately two thirds of this vast amount goes to pay the salaries of teachers and supervisory officers, and the wages of other school employees. Surely the procedure of handling two billions of dollars is deserving of close consideration and supervision.

The mechanics of paying school employees is important not only because it involves handling vast sums of money, but also because it provides a means of building up or tearing down morale both inside and outside the school system. All school employees come in direct contact with the business office in this regard, and judge the efficiency of the school-board's business department largely in the terms of its promptness and accuracy of payment and fair-dealing.

The degree of accuracy and efficiency in the central office is a pretty safe index to the efficiency of the school system, not only in financial matters, but in all functions. Inaccuracy and inefficiency on the part of the central office in regard to salaries and wages cannot be kept from the public for long, and errors and failures tend to cause the public to lose confidence in the ability of the school authorities to administer the schools. Through the proper administration of the payroll procedure the school business executives are afforded the opportunity to demonstrate the fact that a great public institution can be run efficiently and effectively, and that a strict accounting for every dollar of public money is possible. Such a demonstration is a valuable one for any community. Then, too, an efficient payroll procedure is not a plan that is used on rare occasions, but one that is in constant operation and, as such, is a constant source of economy.

Regardless of the importance of the payroll procedure, we find the plans in use varying greatly not only in the different states, but also in the different communities within a state. Practically the only unity of procedure found to exist is in details required by the state school laws governing the expenditure of funds. As one clerk of a board of education expressed it, "The payroll procedure has just 'grown up.'"

Subject Defined and Limited

Although payroll procedure involves many technical elements, and is a function of the accounting department, it is closely related to the entire business of the schools and ordinary, sound principles of organization and administration can be applied by the average school clerk and superintendent with reasonable success. The present study has been made more from the viewpoint of the school administrator than from that of the trained accountant.

It will be the purpose of this paper to suggest a plan of procedure in regard to the payment of salaries and wages in the public schools, starting with the beginning of employment and ending with the termination of employment.

Characteristics of the Plan

A writer on railroad accounting makes an observation that is not without application to the payroll procedure of the public schools. He says, "The railroads spend millions of dollars eliminating curves on their lines and reducing grades in order to conserve their resources, increase their net earnings and operate more efficiently. They are overlooking, however, the *curve and grades* in the accounting department.[1]

There are certain characteristics which a well-planned school-payroll procedure must have. If the "curves and grades" are to be eliminated, there must be efficiency in operation; if the delay and dissatisfaction of promiscuous side-tracking is to be avoided, there must be accuracy of calculation; if the number of steps are to be reduced to a minimum, it must be direct and simple in organization; and finally the plan must meet the requirements of the state law and of the local school charter.

[1]John C. McNeil in Railway Review, June, 1925.

CALENDAR OF SCHOOL YEAR

FALL TERM—1928

School Month of September

M	T	W	T	F
*3	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28

School Month of October

M	T	W	T	F
1	2	3	4	5
8	9	10	11	*12
15	16	17	18	19
22	23	24	25	26

School Month of November

M	T	W	T	F
29	30	31	1	2
5	*6	7	8	9
*12	13	14	15	16
19	20	21	22	23

School Month of December

M	T	W	T	F
26	27	28	*29	*30
3	4	5	6	7
10	11	12	13	14
17	18	19	20	21

Christmas Holidays of two weeks intervene

WINTER TERM—1929

School Month of January

M	T	W	T	F
7	8	9	10	11
14	15	16	17	18
21	22	23	24	25
28	29	30	31	1

School Month of February

M	T	W	T	F
4	5	6	7	8
11	*12	13	14	15
18	19	20	21	*22
25	26	27	28	1

School Month of March

M	T	W	T	F
4	5	6	7	8
11	12	13	14	15
18	19	20	21	22
25	26	27	28	29

School Month of April

M	T	W	T	F
1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26

Spring Vacation of one week intervenes

SUMMER TERM—1929

School Month of May

M	T	W	T	F
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24
27	28	29	*30	31

School Month of June

M	T	W	T	F
3	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28

*Holidays.

FORM I

A simple type of school calendar. This calendar is especially suited for use where the school month is divided into equal periods of four weeks each. Each month represents a pay period. A list of special dates and holidays is appended to the calendar.

If the school-board payroll department is to fulfill the important function indicated above in regard to its effect on the morale of the teaching staff and the confidence of the community, then it must be more than a bookkeeping department. The position of this department lies between the two contracting parties, namely, the board of education and the teacher, and its work has to do with the performance of the conditions of the contract. Not merely the carrying out of these conditions, but carrying them out to the satisfaction of both parties to the contract, is the larger function of the payroll department. To accomplish this task, difficulties and misunderstandings must be anticipated and avoided. Questions must be answered willingly and fully, and when mistakes do occur the adjustment must be made readily and in equity to both parties. In short, the payroll procedure should be humanized.

SCHOOL CALENDAR

1929

Date	*Day*	*Time*	*Event*
Jan. 2	Wednesday	8 A.M.	Christmas vacation ends
Feb. 15	Friday	At close of sessions	Early spring vacation begins
Feb. 25	Monday	8 A.M.	Early spring vacation ends
Mar. 1	Friday	8 A.M.	Spring term begins
Apr. 12	Friday	At close of sessions	Late spring vacation begins
Apr. 22	Monday	8 A.M.	Late spring vacation ends
May 30	Thursday	Holiday	Memorial Day
June 14	Friday	12 M.	Grades below High School close for summer
June 21	Friday	Evening	High School Graduation Exercises
Sept. 3	Tuesday	10 A.M.	Teachers' Assembly
Sept. 4	Wednesday	8 A.M.	Fall term begins
Nov. 11	Monday	Holiday	Armistice Day
Nov. 27	Wednesday	12 M.	Thanksgiving recess begins
Dec. 2	Monday	8 A.M.	Thanksgiving recess ends, and winter term begins
Dec. 20	Friday	At close of sessions	Christmas vacation begins

1930

Jan. 2	Thursday	8 A.M.	Christmas vacation ends
Feb. 14	Friday	At close of sessions	Early spring vacation begins
Feb. 24	Monday	8 A.M.	Early spring vacation ends
Mar. 1	Saturday	8 A.M.	Spring term begins
Apr. 11	Friday	At close of sessions	Late spring vacation begins
Apr. 21	Monday	8 A.M.	Late spring vacation ends

Permanent School Calendar

The school year shall begin September 1 and end August 31 of the succeeding calendar year.

The fall term shall begin Tuesday following Labor Day, at 8 A.M., and end at close of sessions, November 30 next. The winter term shall begin December 1, at 8 A.M., and end, at close of sessions, on the last school day of February of the following calendar year.

The spring term shall begin March 1, at 8 A.M., and end, for the schools below High School grade, on the Friday in June when they have been in actual session at least 178 full days, and for the High School, when it has been in actual session for at least 183 full days.

Note—Teachers will assemble on Tuesday, following Labor Day; pupils on Wednesday, directly thereafter.

(*For schedule of holidays and vacations see Town Report for 1920.*)

FORM 1 A

Another type of school calendar which includes in one page a list of the information necessary for the teacher to understand her duties. This type of calendar assumes that the calendar month is also the school month.

Avoid Misunderstanding

Probably the surest way of avoiding misunderstandings is to make certain at the outset that both parties to the contract of employment thoroughly understand not only the conditions, but also the plan for carrying out these conditions. Consequently, as soon as the name of the new employee comes to the payroll department, this department must furnish the precise information which explains how the department will carry out the terms of the contract.

This information should be taken from the rules, regulations, and written instructions that have been prepared and approved by the board of education relating to: (1) the length of the school term, (2) holidays, (3) deductions for absence, for pensions, and refunds, (4) the dates and periods of payment, (5) the place of payment, (6) the manner of payment, (7) the operation of the salary schedule, (8) a proper plan for wage adjustments in case of error or misunderstanding, (9) release from contract, (10) instructions in regard to the obligation of employees. A copy of the official school calendar will answer requirements (1), (2), and (4); information for item (3) can be taken from the payroll calculator for the school system; a copy of the salary schedule will suffice for item (7), and included in the salary schedule there should be concise statements to answer items (5), (6), (8), (9), and (10).

The obligations of employees, mentioned in item (10) naturally include the requirements of the state school law in addition to the obligations of the local board of education. To illustrate: The school law of California states that warrants for the payment of teachers' salaries are not to be drawn (1) unless the register is properly kept, (2) until the annual report is made, (3) until notice of the closing of school has been filed, (4) until the annual textbook order has been filed, (5) only when the proper teachers' certificate is held and properly registered, (6) and only after the teacher has faithfully performed her duties.

The suggestions under items (1), (2), and (4) indicate two tasks of the payroll department; the preparation of the school calendar and the making of a payroll calculator. A sample of a minimum school calendar appears in Form 1. A recommendation for a homemade payroll calculator is shown in Form 2.

Record Started for New Employees

Basic for an adequate payroll plan is a system of original records relating to all employees in a school system. When the name of a new employee comes to the payroll department from the employing school executive, it must be accompanied with certain basic information concerning the employee. For the purpose of the payroll department, the information does not need to be so complete as for the employment department or the employing school official, but it must be accurate. It should consist of the name of the employee; the position for which employed; the salary, with facts on the period of employment, such as year, month, or week, and the place or school where the employee is to work. The new employee is given an account number, and the basic information concerning him is placed on a sheet in the payroll register. Naturally, only

PAYROLL CALCULATOR

Yearly Salary	Monthly Salary	0 Actual Salary	0 Deductions	0 Amount Paid	1 Actual Salary	1 Deductions	1 Amount Paid	2 Actual Salary	2 Deductions	2 Amount Paid
$1620.00	$160.00	$160.00	----	$160.00	$160.00	$8.00	$152.00	$160.00	$16.00	$144.00
$1700.00	$170.00	$170.00	----	$170.00	$170.00	$8.50	$161.50	$170.00	$17.00	$153.00
$1800.00	$180.00	$180.00	----	$180.00	$180.00	$9.00	$171.00	$180.00	$18.00	$162.00

FORM 2
SUGGESTION FOR PAYROLL CALCULATOR

regular employees are given a sheet in the payroll register.

It is highly desirable to have an account with each employee; the payroll register provides a convenient place for this purpose. In a large school system the duplication of names for each payroll is a laborious clerical task and should be facilitated so far as possible by the use of the payroll register which provides for the entries for several months without duplication. Form 3 requires the writing of the employee's name but once and provides for a full account with the person for the whole fiscal period of a year.

Keeping the Time Record

With the begining of employment comes the task of keeping the time record. Because of the advantages of his position, the principal is the logical person to be held responsible for the keeping and reporting of the time for all teachers, substitute teachers, and regular employees in his school. He should not, however, have any more to do with the whole payroll procedure than to deliver the pay checks. Current practice in regard to the principal's part in making up the

(Distribution Ledger) Account No. ____

(Salaries and Wages) PERSONAL SERVICES

School Year Beginning ____ 19__ Ending ____ 19__

Name	Position	Code	Salary Annual	Salary Deduction	Salary Monthly	1st Month Beginning ---- Ending ------- Deduction	1st Month Paid	2nd Month Beginning---- Ending------- Deduction	2nd Month Paid

FORM 3. SALARY LEDGER

payroll varies from the one extreme of relieving him entirely of all responsibility, and the other of delegating him rather complete and definite authority. The principal should not be burdened with the financial matters related to the payroll. He should make his monthly time report on the day set by the central office. This report should be complete and accurate, but free from needless detail. Form 4 is suggested.

Perhaps the chief advantages of having the record of substitute teachers on the same page with the regular employees is the ease of checking. In a large school more than one sheet will be needed for the monthly report. The writer is of the opinion that a statement as to the cause of absence is preferable to the use of a code. The

FORM 4. TIME REPORT FOR PAYROLL

Name of School_____ Month Beginning____ Ending____

Name of School System _____.

Name	Position	Days Taught	Days Absent	Date of Absence	Cause of Absence
Brown, Mary	3rd. Grade	19.5	1.5	Oct. 12 P.M. to Oct. 14 A.M.	Personal Illness
Substitute Teachers	Position	Days Taught	Date of Service	Substitute for	Total Number of Days Taught
Smith, May	3rd. Grade	1.5	Oct.12 P.M. Oct.14 A.M.	Brown, Mary	1.5
Other Employees	Position	Days Present	Days Absent	Date of Absence	Cause
Jones, Sam	Janitor	21	3	Oct. 14 A.M. to Oct. 17 A.M.	Illness in Family
Other Substitutes	Position	Number of Days	Date of Service	Substitute for	Total Number of Days
Green, Wm.	Janitor	3	Oct.14 A.M Oct.17 A.M	Jones, Sam	3

Signature of Principal _____

FORM 4. PRINCIPAL'S TIME REPORT

payroll clerk rather than the principal is to decide from the records whether or not a deduction is to be made for the absence. The principal's report is to be made in duplicate, one copy to be retained for the principal's files and the original to be sent to the central office.

Making Up the Payroll

The time needed for making up the payroll is determined by the amount of work to be done, the size of the school system, and the amount of clerical help available. It is also determined by the efficiency of the procedure in the central office. The general practice seems to be to have the principal's time report ready on the last Thursday of the school month, and to make payments the following Monday or Tuesday.

Upon receipt of the principals' reports in the payroll office, the information is checked for accuracy and placed on the "personal service" sheets in the distribution ledger. By using the payroll calculator, the amount of deduction for each employee for the month is determined and recorded on the "personal service" sheets. From this ledger the "requisition payroll" for the month is made out.

The state law of California permits the use of a payroll warrant by a district in making payment to two or more employees. The law states that the name and salary of each employee must be listed and that in case of the attachment of the salary of any employee said attachment shall effect only the salary of that employee.

Form 5 for the "requisition payroll" is a good general form and meets the requirement of the California law. It is not complicated.

When the "requisition payroll" has been completed in duplicate and checked for accuracy by the payroll department, the original copy is submitted by the business manager to the superintendent of schools. With the approval of the superintendent it is submitted to the secretary of the board. From this point on the procedure will vary considerably according to state law and local charter requirements. According to the school law of California, for example, the requisition must be signed by at least two members of the board of education or by an official authorized to sign orders for the board of education. With the approval of the board it is submitted to the county superintendent, who, when he approves, indorses upon it, "Examined and Approved," with the number and date when approved and signs his name. He then submits it to the county auditor for examination and approval. The auditor indorses upon the requisition, "Allowed," together with the number, the date, and his signature. After being approved and allowed the payroll warrant or requisition according to the state law, is deposited with the county treasurer who makes payment for the total amount to the secretary of the board or superintendent, who turns it over to the business manager for distribution.

The individual checks are made out by the payroll department, submitted to the secretary of the board for signatures of the board members, and delivered to the principals for distribution to the employees. As a safeguard to the central office the principals in most school systems are required to give a receipt for the checks. In case of a mistake the employee must report the same to the principal in writing, within 24 hours, and adjustment will be made on the next months' check. There is more than one advantage in the practice of having the principal deliver the pay checks. His office is accessible to all and the delay of using the mails is avoided. He is responsible for checking the teachers' work, and to have him give out the checks is a good arrangement.

Other Than Instructional Service

Although salaries paid under instructional service represent the largest personal-service item in the school budget, they do not include all payments made to individuals who render serv-

Board of Education Date_____

REQUISITION PAYROLL

For period ending_____ 19__ (Mo. / Day)

Payroll Voucher No. __ Approved_____ Superintendent

_____ Secretary of Board

Payroll Number	Name	Position	Salary Check No.	Annual Salary	Monthly Salary	Deductions: Retirement	Deductions: Absence Other Purpose	Amount Paid
1	Smith, John	Teacher 6th. Grade	17	$1,800	$180.00	$12.00		$168.00

FORM 5. PAYROLL REQUISITION

ices to the school district. As has been stated, the principal's report is for only the regular employees in his school, which does not include the employees of the maintenance and service departments for the whole school system. These workers are often paid by the day or week, and so require a separate payroll. An accurate check of their time should be made by the business manager or whatever foreman is in charge of them.

Each employee is necessarily required to keep a time card, which shows at least the following data: (1) the particular job worked on each day, (2) the hours engaged in each job each day, (3) the name of the school, (4) and the time for traveling between jobs. The workmen's time cards are reported daily to the foreman who checks them with his daily record. The time for traveling between schools should be apportioned over all the schools as an overhead cost. From the time cards the foreman prepares his weekly

(Concluded on Page 121)

PAYROLL PROCEDURE CHART - PUBLIC SCHOOL SYSTEM

Follow this line Start here

Applicant is employed.

Employment Department

1. Transmit employment record to Payroll Department.
2. Transmit employment record to principal or foreman.

New employee informed and name placed on records.

Payroll Department

3. Give employee an account number and make entry on Personal Service sheet in Distribution Ledger.
4. Furnish employee with information concerning: (1) Length of term (2) Holidays (3) Deductions for absence, pensions and refunds (4) Dates and periods of payment (5) Place of payment (6) Manner of payment (7) Operation of salary schedule (8) The proper plan for salary adjustment in case of error or misunderstanding.

Keeping the time record.

Principal

5. Keep time record for teachers and regular employees at his building and all substitutes for same.
6. Make monthly time report to Payroll Department by 4 P.M. on the last Thursday of school month (Form 4).

Preparing the payroll

Payroll Department

7. Check principals' monthly time reports.
8. Make all deductions.
9. Make entries on Personal Service sheets.
10. Make up payroll on Form 5.
11. Submit payroll to superintendent of schools.

Approving the payroll for the schools.

Superintendent of Schools

12. Approve the payroll and sign it.
13. Submit the payroll to the clerk of the board of education.

Approving the payroll for the board of education

Clerk of Board of Education

14. Check payroll carefully to see that all conditions of employment have been met.
15. Approve and sign the payroll for the board of education.
16. Transmit the Requisition Payroll to the county superintendent.

Approving the payroll for the county and the state.

County Superintendent

17. Check the payroll, endorse it "examined and approved," sign name, give number, give date.
18. Transmit payroll to county auditor.

Paying the payroll.

County Auditor

19. Endorse payroll, "allowed" together with signature, date and number.
20. Deposit Requisition Payroll with the county treasurer.
21. Draw warrant check for full amount on correct fund and deliver to clerk of board of education.

Payroll Department

22. Make out individual warrant checks for all employees.
23. Deliver checks to clerk of board of education for the signature of two members of the board.

Clerk of Board of Education

24. Secure proper signatures for pay checks.
25. Return pay checks to payroll department.

Payroll Department

26. Mail pay checks to substitute teachers and substitute employees
27. Deliver pay checks for regular teachers and employees to the principals and foreman.

Principal

28. Distribute pay checks to teachers and regular employees in his school.

Teachers and Employees

29. Report mistakes or complaints to principal within 24 hours.

Principal

30. Principal reports all mistakes to the payroll department for adjustment.

FORM 6
PAYROLL PROCEDURE IN GRAPHIC FORM
Local legal requirements will suggest modifications.

What the School Clerk Does

How Seattle Liberates Elementary-School Principals for Teacher Leadership

Worth McClure, Assistant Superintendent of Schools

The professional burgeoning of the elementary-school principalship has brought with it many problems of a reconstructive nature. Perhaps none of these is more crucial than that of hewing the principal's desk clear of its long-accumulated wreckage of reports, routine, and red tape, so that the time and talents of the principal may be released for professional leadership.

It is sometimes erroneously assumed that the provision of clerical assistance will solve the difficulty. There are no panaceas in education, however, and to assume that the mere assignment of a clerk will liberate the principal is to take a superficial view of a major problem in elementary-school administration. On the one hand, the principal must be assisted to reorganize and simplify his office management, and to learn how to use clerical help effectively. On the other a competent clerical staff must be selected and trained in service.

The principal needs the assistance of the superintendent's office in the standarization of office practice and administrative routine. He usually agrees heartily with the theory that his principal function is the leadership of teachers, but he points with considerable effectiveness to the list of reports and routine administrative detail required by the superintendent's office. Such requirements are, of course, inevitable and necessary. It is the obligation of the superintendent, however, to see that these demands are frequently evaluated on the basis of necessity, that they are carefully standardized as to character, and that they are organized so that the possibility of duplication is eliminated. Individual principals also frequently have contributions to make. One Seattle principal, for example, devised a duplicate admission slip which in one writing served not only its original purpose but, which also eliminated the need for one set of records. Such contributions need to be cleared through the superintendent's office and made available to all the schools. The administration of supplies and textbooks is another field in which standardization may be introduced in the interests of economy of time and effort.

These examples will serve to show how cooperative effort by the superintendent and principal are essential, quite apart from the provision of clerical assistance, in liberating the principal from the rut of routine.

The Problem of Clerical Help

Under the leadership of Supt. Thomas R. Cole, the superintendent's office of the Seattle school system, has cooperated with principals in meeting certain definite problems of elementary-school administration. These are as follows:

1. The simplification of routine administrative reports and requisitions.
2. The standardization of inventories and book lists.
3. The establishment of an individual book and supply budget for each school based upon the number of pupils.
4. The organization and installation of a uniform filing systems for elementary school principals' offices.[1]
5. The provision of a uniform bulletin file to elementary-school teachers to care for mimeographed materials.[1]
6. The provision of clerical help to all elementary-school principals and the establishment of in-service training for elementary school clerks.

The purposes of this article are to describe the Seattle plan for providing elementary-school clerical service, to report what a job analysis shows that elementary-school clerks actually do and to suggest some fundamental considerations in making this service effective.

That a new clerk is a liability in any office is obvious. She will continue to be a liabilty unless she can do what needs to be done and until she has adjusted herself to the exigencies of the situation. Considerations of selection and adjustment on the job, therefore, make it imperative to know what the clerk actually does.

Growth of Clerical Help

Elementary-school clerks were first provided in Seattle in 1920 when the larger schools were given part-time help. At present, every elementary-school principal in the system is receiving some clerical assistance. The schedule of clerical help now in effect is as follows:

THE SEATTLE SCHEDULE OF CLERICAL SERVICE TO ELEMENTARY SCHOOLS

This schedule is subject to individual adjustments upon satisfactory showing of special needs.

FULL-TIME CLERKS

All schools of 800 or more pupils in average daily attendance.

PART-TIME CLERKS

Size of School	Weekly Allotment of Clerical Service
600–800	20 hours
400–600	15 hours
Less than 400	10 hours

Full-time clerks are graduates of Seattle high schools. They are paid at the rate of $75 per month for 10 months.

Part-time clerks are usually juniors or seniors in Seattle high schools who are pursuing the regular commercial courses, and who have attained suitable proficiency in shorthand and typing. These receive high-school credit for the time spent in elementary-school offices, as well as the regular financial compensation. A few are qualified graduates of Seattle high schools who are awaiting appointments to full-time school clerkships. Part-time clerks receive 40 cents per hour for the time actually spent upon the job.

Selections are made by the Commercial Coordinator in the central Vocational Department upon the basis of recommendations from heads of commercial departments and personal interviews with applicants. Assignments to schools and adjustments of personnel are also made by this officer; subject to approval by the assistant superintendent in charge.

In-Service Training

Besides the incidental training given by the principal, it has been found desirable to hold two or three general instructional meetings for clerks each year. These are held on Saturday morning for both experienced and inexperienced clerks. The former are encouraged to make contributions to the discussion and some of their comments are most helpful.

At the first of these meetings, held before school opens in September, the clerks are instructed in the importance of their function, in the nature of their duties, and are told of some major considerations of success, such as courtesy, discreetness, etc. The latter are illustrated by the rating sheet and previous comments of principals in explaining ratings which they have given. Care is taken not to burden the first meeting with too much detail.

Near the close of the first school month, another meeting is called at which methods of compiling certain crucial reports are outlined and discussed. Mimeographed materials containing detailed instructions for preparing reports are distributed. A third meeting is usually held near the close of the first semester in order to give instruction with reference to certain midyear duties.

These meetings have proved of value in establishing an *esprit de corps*, as well as in saving the time which the principals might otherwise give to general training.

Rating in Service

As already intimated, service ratings are given by principals. These are made once each semester in order to facilitate personnel management and to stimulate improvement in service. The form used is given herewith.

Principal's Rating of Elementary-School Clerk

Clerk———————————
School———————————
Scheduled at this school for ——— hours per week.
Began service at this school in ———, 19——.

	A	B	C	D	Failure
Accuracy in taking dictation					
Accuracy in making reports					
Accuracy in typing					
Dispatch; ability to get things done promptly					
Discreetness in dress and appearance					
Orderliness; care of desk; general housekeeping ability					
Courtesy in meeting pupils, teachers, and others					
Spirit of helpfulness					
Effort					

Will this clerk be available for service next semester? ———————————
Do you wish her assigned to your building again? ———————————
Remarks: ———————————

Date———— Principal————

This rating blank does not pretend to be as careful an analysis of character traits as that made by Charters,[2] but it does include with one exception items most frequently mentioned by principals during 1926–7 in response to the question, "Do you wish this clerk assigned to your building next semester? Please comment." The single item, "discreetness in dress and appearance," was included because of its somewhat crucial character.

The Procedure. Acknowledgment for guidance as to procedure and organization of the job analysis is made to the premier analysis of secretarial traits and duties by W. W. Charters and I. B. Whitley of the University of Pittsburgh in 1924.[3]

The method pursued was similar in general to that followed in the Charters study:

1. By conferences with 8 full-time clerks a preliminary extensive list of duties was secured.
2. This was then submitted to 10 part-time clerks selected at random for the purpose of adding additional items. In this way a check list of 92 items was compiled.
3. Frequency of performance of these items was then secured by a check list which was returned by 62 full-time and part-time clerks serving 73 schools.

EDUCATION AS EXPERIENCE

Education is the product of factors many in number and different in kind; in fact, of the whole gamut of experience. As experience is measurably subject to control, so within limits a man may shape his education. The work involves more than listening and gleaning information. Its basal trait is some form of making, and the test of its genuineness is growth. When so carried on, its discipline widens a man's horizon and enlarges his mental caliber: builds power and creates new molds of thought: brings about inner changes and transforms life.—Leon Josiah Richardson.

[1] H. F. Smith, Uniform Files for Principals and Teachers. Eighth Yearbook. Department of Elementary-School Principals of the National Education Association, 1929.

[2] W. W. Charters and I. B. Whitley, Analysis of Secretarial Duties and Traits. Williams and Wilkins, 1924.

[3] Analysis of Secretarial Duties and Traits, op cit., p. 6.

Classified List of Duties

Items reported by five or more clerks have been classified into seven groups, and are given below together with frequencies. Classifications are similar to, but not identical with, those made by Charters.

FREQUENCY TABLE OF CLASSIFIED DUTIES OF 62 ELEMENTARY SCHOOL CLERKS

I. Clerical Duties

Number Performing	*Duty*
51	Compiling monthly classification record
48	Compiling monthly payroll report
46	Showing all reports to principal for verification
46	Sending to other schools for pink index cumulative record cards
44	Sending pink index cumulative-record cards to other schools
40	Checking of teachers' reports
40	Going around to rooms to secure information for stated reports
30	Checking off deliveries against office duplicate
30	Keeping teachers' bulletin board up-to-date
30	Correcting intelligence test papers
29	Checking out materials from office: scissors, paper cutters, etc.
28	Writing out transfers of pupils
28	Compiling principal's annual report
26	Compiling age-grade report
25	Taking annual inventory of stock
25	Compiling promotion summary for the building
24	Keeping books and supplies in order
24	Making out list of things needed for monthly requisition
23	Checking of Illinois General Intelligence Test data in special cases
23	Compiling building summary of standardized test results
23	Checking teachers' semiannual promotion summaries
21	Making out lunchroom report
21	Filling of teachers' requisitions for supplies
20	Sending in changes of addresses of the teachers to the superintendent's office
19	Making out pink and white index cards after first two weeks of school
19	Caring for extra bank materials, envelopes, blanks, etc.
19	Checking teachers' attendance
19	Checking teachers' reports on standardized test results
17	Making out reports for child-study laboratory on individual pupils
16	Helping principal and census taker in checking May census
12	Making graphs of test results
11	Making out monthly and annual requisitions for principal's inspection
9	Taking charge of school library and teachers' reference books
7	Writing out report on accident for principal's signature
6	Writing out tardy and absence blanks
6	Figuring bank percentage for each room
6	Looking up phone numbers and addresses of absent children
6	Assisting in taking height and weight of children for the height and weight survey
5	Securing information from registers (teachers') of two years, from grades 6 to 8
5	Checking teachers' activities reports
5	Compiling corporal-punishment report
5	Making out a banking report each week for each room

II. Duties Relating to Dictation, Typing, and Mimeographing

Number Performing	*Duty*
53	Typing stencils for tests, drills, outlines, etc., prepared by teachers and principals for pupils' use
49	Typing stencils of notices to take home
47	Taking dictation and typing letters
46	Operating mimeograph
42	Typing bulletins, notices, etc.
40	Caring for typewriter: cleaning, dusting, and oiling
30	Typing stencils for bulletins, etc.
28	Cleaning mimeograph
25	Typing stencils for mothers' club and parent-teacher association
20	Typing stencils for school paper
17	Typing two copies of annual inventory and requisition
15	Tracing of stencils with mimeoscope or otherwise
11	Tracing with mimeoscope for primary grades

MR. GEORGE W. SANGER,
Acting Commissioner of School Buildings,
St. Louis, Missouri

Mr. George W. Sanger, who was recently appointed as acting commissioner of school buildings of St. Louis, to succeed the late R. M. Milligan, is a native of New York state and received his common-school education in that state. His preparatory education was received in the St. Louis high schools. In addition, he completed courses in architecture and pictorial art under private tutors, as well as courses in journalism, medicine, and practical psychology. Four years of study and apprenticeship in the architectural profession were completed under Messrs. Eames & Young, a St. Louis architectural firm, and fifteen years were spent with the firm of Theodore C. Link.

Mr. Sanger has been employed by the St. Louis board of education for the past fourteen years as chief draftsman and designer of school buildings under the late Rockwell M. Milligan.

Mr. Sanger is well qualified by training and experience for the position to which he has been appointed and he will be in position to carry out the ideas and special skills developed by Mr. Milligan.

6	Mimeographing attendance cards for each month

III. Duties Involving Meeting and Handling People

Number Performing	*Duty*
57	Answering the telephone
50	Meeting visitors and answering their inquiries
45	Delivering messages of all descriptions either to teachers or principal
38	Managing lost and found articles
36	Escorting parents and visitors to rooms
26	Giving first aid in principal's and nurse's absence
23	Handling minor cases of discipline when principal is out of the office, always reserving final judgment for him
22	Giving out street-car identification cards
20	Assigning rooms to those entering in absence of principal, and calling such assignments to his attention when he returns
19	In case of emergency, taking charge of classroom
17	Writing out admission slips for entering pupils
14	Supervising children who ring bells
8	Signing excuses, tardy and absence, for principal's O.K.
7	Notifying teachers when they are assigned to lunchroom duty
5	Telephoning homes to help nurse

IV. Duties Relating to Filing, Indexing, Etc.

Number Performing	*Duty*
49	Filing white index cards
48	Filing white index cards — gone file
43	Filing pink index cards — gone file
41	General filing — care of the standardized vertical file
38	Keeping index cards in shape
20	Filing teaching materials loaned and returned
13	Filing library cards for teacher's reference books
6	Filing National Geographic pictures—in sets
5	Filing child-study laboratory reports—on small tag-board cards

V. Financial Duties

Number Performing	*Duty*
23	Counting and wrapping the lunchroom money
21	Selling car tokens
15	Receipting all moneys: a record of all money received is kept by the clerk
14	Checking bank deposits of lunchroom and other school funds
13	Receiving and caring for money until bank messenger arrives
5	Selling of tickets for concerts, etc.

VI. Duties Involving Mail

31	Handling United States and school mail

VII. Miscellaneous Duties

43	Keeping desks and office furniture in order
33	Planning to avoid classroom interruptions
21	Cleaning and Dusting of office files and furniture

Summary. After those duties reported by fewer than five clerks were eliminated the number of items under each of the respective groups is as follows:

Summary

Group	*No. Duties Included*
Clerical	44
Meeting and handling people	15
Mimeographing, typing, and dictation	14
Filing, indexing, etc.	9
Financial	6
United States and school mail	1
Miscellaneous	3

Administrative Follow-up

The predominance of the clerical list has already furnished some reason for administrative attention in Seattle to certain crucial problems. For example, standardized procedures based upon practice of experienced clerks for compilation of such reports as classification records and payrolls, have been discussed in instructional meetings with clerks, and each clerk has been provided with a mimeographed statement of the procedure to be followed.

Some of the duties involved in meeting and handling people are also recognized as of a crucial nature. For instance, special instruction is given in meetings each year concerning the appropriate manner of answering the telephones and of "meeting visitors and answering their inquiries."

Attention of principals has also been directed to the necessity of caution in delegating to clerks certain responsibilities such as "handling minor cases of discipline when principal is out of the office," "in cases of emergency taking charge of classroom," etc. Not every clerk can discharge such responsibilities acceptably and some cannot draw the line between desirable initiative and the undue assumption of authority.

Copies of the classified list of duties have been provided to high-school principals and heads of commercial departments, and attention has been called to the importance of adequate school training for such services as mimeographing, filing, taking dictation, typing letters, etc.

Some Implications of This Study

It is evident in an examination of the list of duties performed by the clerks that the office burden of which principals have long been complaining is by no means a creature of the imagination. What may be termed collateral evidence of this is the wide range of responsibilities and work which clerks are called upon to perform. It will be noted by reference to the classified list of duties that practically all of the phases of secretarial duties suggested by Charters are here represented, although not in such great multiplicity under any classification.

On the other hand, the very wide range and multiplicity of duties performed by the clerks suggests the possibility, unless he deliberately and carefully guards himself against it, of the principal's getting out of touch with his school because he has relinquished to another the formulation of important data and the making of many human contacts. This will not happen if the principal realizes his full responsibility for everything that goes on in his school and uncompromisingly insists upon knowing his school thoroughly at all times. If this remains his attitude, then the fact that the clerk compiles his

(Concluded on Page 122)

School Buildings for the Smaller Communities

Warren S. Holmes[1]

While very little has been written on the medium-size and small school, certainly the great majority of school buildings belong to this class. Prominent school architects prefer to exhibit their large buildings, and small schools are more difficult to design.

Inherent Advantages

Notwithstanding the multitude of examples on every hand to the contrary, the small school building can be made attractive and convenient, and is economical in cost. Where this is accomplished, the small and medium-sized schools become a highly valuable part of the group of primary and secondary schools.

It is here that the community idea is developed to the "*n*th" power and the advantages of acquaintanceship and personal attention fully realized.

Education aims to offer the environment and interests that stimulate boys and girls to develop the best that is in them. This is accomplished at school in two ways; first, by the absence of distractions, and second, by the presence of facilities.

In its claim to childish interests, the small school building has fewer competitors than large ones. The former is more personal and more highly prized in the scheme of life. It runs no risk of growing commonplace by extent and competition. Its very compactness is a lesson in efficiency and economy. No detail escapes the attention of any child from primary to graduation. It invites a grasp of fundamentals most essential in education. Each detail constitutes a letter well learned, as it were, in the alphabet of worth-while things in life.

The relation between school projects and home occupation is very close. The interests of smaller communities are not so diversified as in large ones. Consequently, there is time and incentive for far greater interest in school matters on the part of parents.

Built-in Facilities

The buildings used to illustrate this article are outstanding community projects with very limited appropriations. Consequently, it has been necessary to practice the utmost economy, in order to procure the built-in facilities desirable for good learning situations.

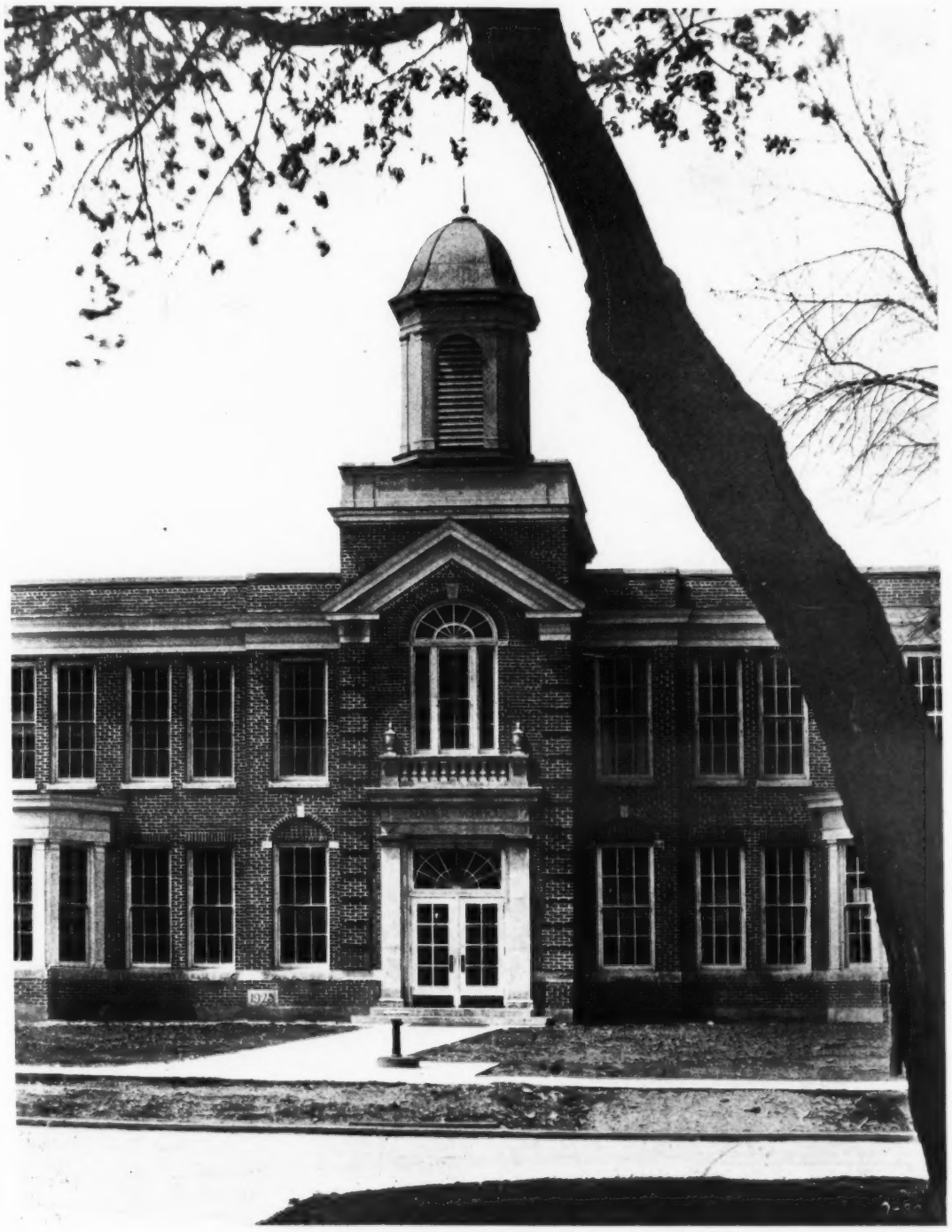
The economies effected have been in the organization of the schools and in the planning of the buildings. In no case have cheap building materials or omissions been resorted to.

The school child in the small community is deserving of every facility and advantage in education accorded to those in large school districts. The finding of methods to accomplish this at greatly reduced costs, constitutes an interesting study, second only to the study of what makes school buildings educate.

While the designs of the exteriors are simple (the first requisite of economy) an attempt has been made to make them interesting and artistic. The interiors include practically every modern convenience for stimulating boys and girls to do and to learn.

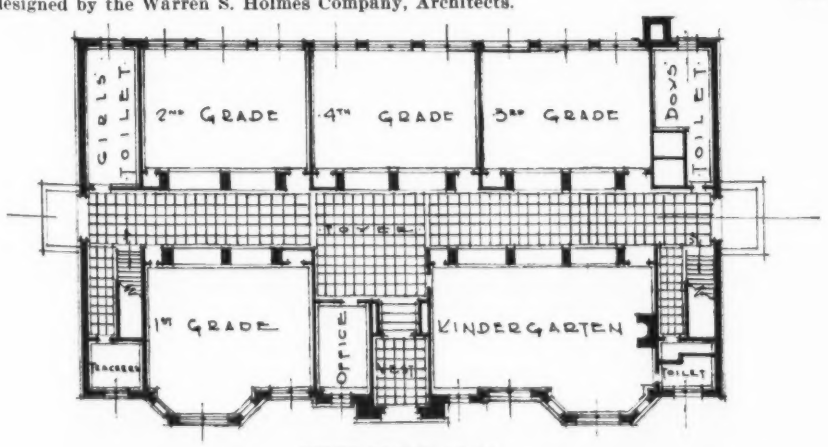
All the buildings have fireproof construction; face-brick and Bedford stone on all elevations; ten-year guarantee roofs; oak trim; steam heat and fan ventilation; automatic temperature control; terrazzo for stairs, corridors, and toilet-room floors; good furniture; and an unusual amount of built-in equipment.

The interiors shown are typical of all the buildings illustrated. Every room has brick window sills for flowerpots and heating that never permits the room to frost. The blackboard space has been reduced to modern requirements,

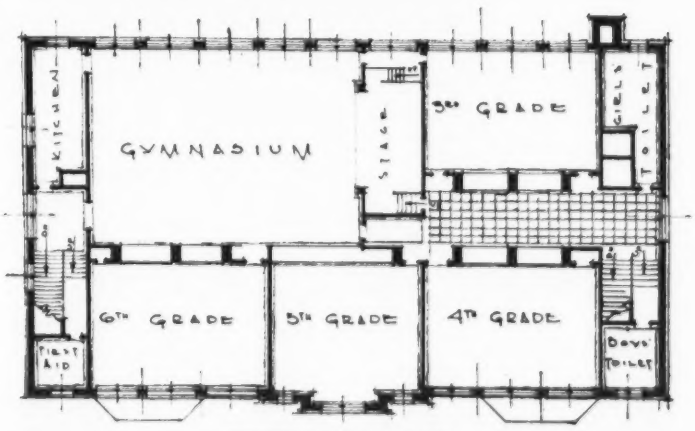


ENTRANCE DETAILS, NAPER SCHOOL, NAPERVILLE, ILLINOIS
The Warren S. Holmes Company, Architects, Lansing, Michigan

[1]NOTE—The buildings illustrated in this article were designed by the Warren S. Holmes Company, Architects.



FIRST FLOOR PLAN



SECOND FLOOR PLAN

NAPER SCHOOL, NAPERVILLE, ILLINOIS
The Warren S. Holmes Company, Architects, Lansing, Michigan

LIBRARY, NAPER SCHOOL, NAPERVILLE, ILLINOIS
The Warren S. Holmes Company, Architects, Lansing, Michigan

and a goodly portion of the wall space is covered with tacking board where students' work and room decorations can be displayed. The inside wall is largely given over to cases for books, projects, exhibits, magazines, and closets. The outside walls which are kept free from radiators and pipes, are available for growing boxes, work tops, picture hanging, window seats, and window lighting.

For all rooms above the third grade, built-in provision is made for home-room requirements and for student club activities, in addition to providing for specialized subjects.

Economies in Organization

Combination Rooms—In small high schools, the combination rooms are desirable from the standpoints of economy and administration.

Library Study—For example, the library study combined with a home-room plan is used in each of the buildings containing a high school, with the result that the space requirements for the usual assembly-study are reduced by one half.

The library study plan requires a locker system and an adequate room for auditorium use. It is an important economy in high-school planning and administration for large and small schools alike.

Auditorium-Gymnasium—Each building has this combination which is perfectly satisfactory for schools of the sizes illustrated.

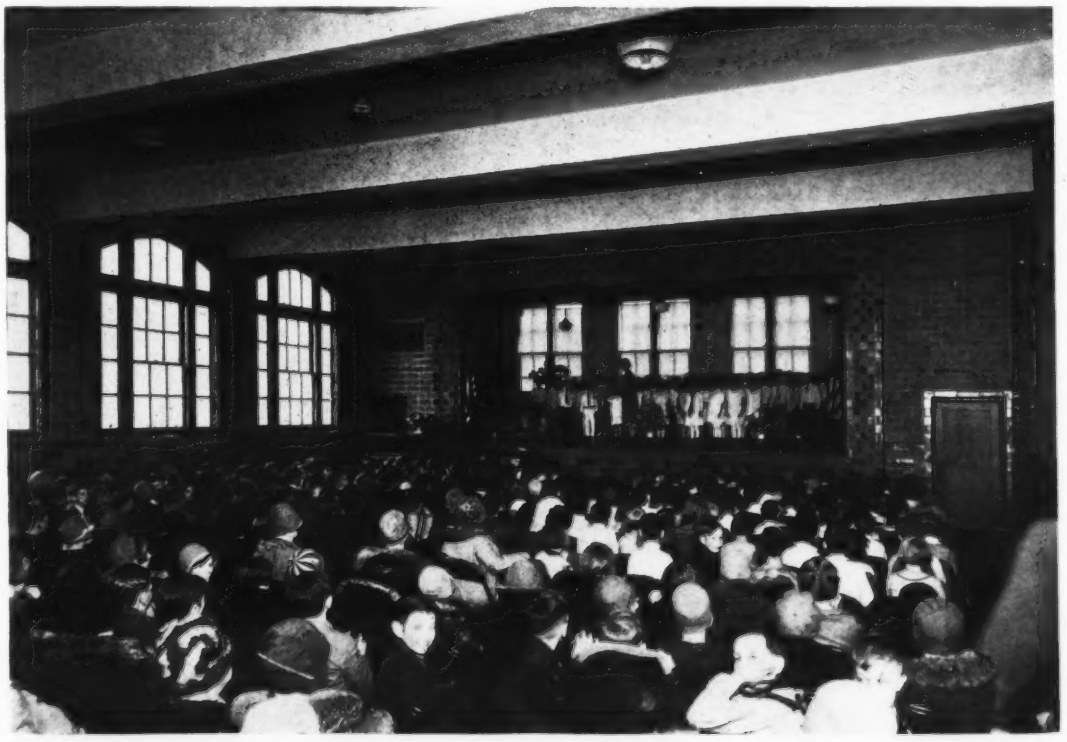
The combination for the Bath school is one of the best. The playing floor is 40 by 60 ft., and the balcony is seated with wood opera-type seats, with a sufficient number to seat either the upper or lower sixth grades at one time.

The storerooms, boys' lockers, showers, and toilet are under the balcony, and the girls' under the stage, each with access to playground from outside doors. The stage is used for bleachers for games. The domestic-science room opens directly into the playing floor for serving banquets. This room has outside entrances for community use, without access to the school section. The economy is obvious.

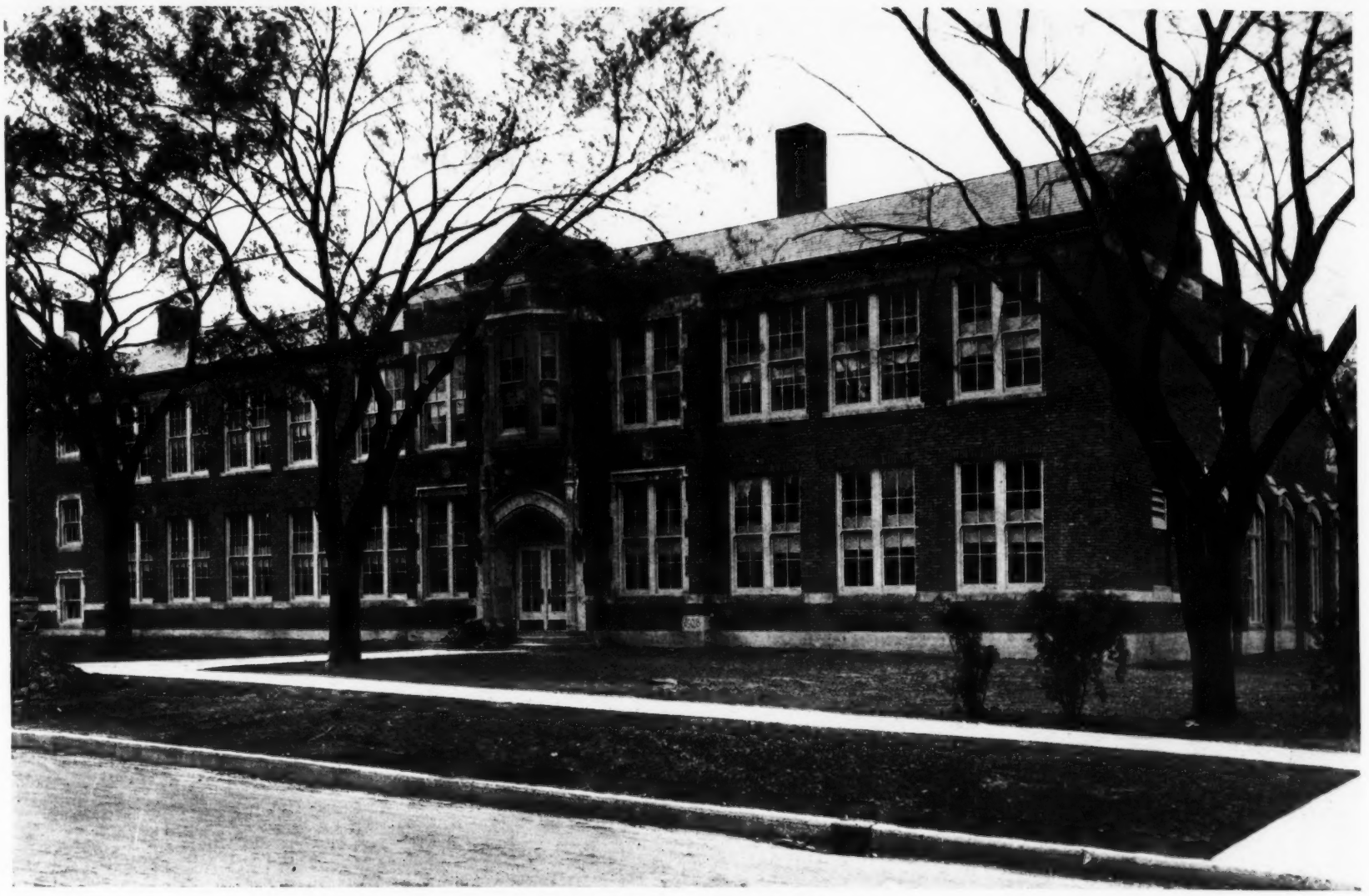
An attractive color scheme of durable materials, with proper acoustical properties, make these rooms beautiful auditoriums as well.

Science Rooms—One science room is designed for all sciences including general science, agriculture, physics, and chemistry. This combination requires a laboratory about 40 ft. long, with six laboratory tables at one end, a demonstration table at the other end, and 24 recitation chairs between. Opening off of this laboratory, back of the demonstration table, is provided a small workroom with growing windows, and a store room equipped to be used as a dark room. This arrangement is shown in the plans of both the Almont and Bath schools.

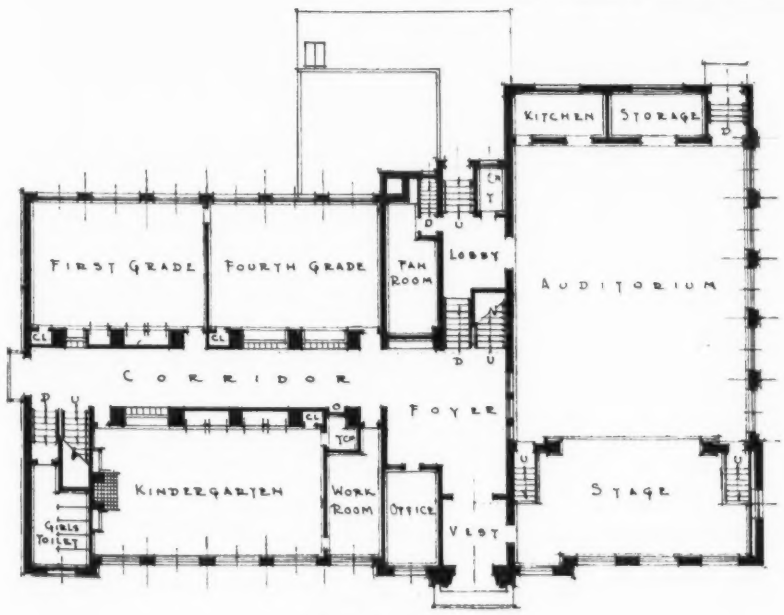
Domestic Science—Where only one teacher is employed, cooking and sewing are provided for in the same room. This combination requires a room about 40 ft. long, fitted with tables suited for both sewing and cooking. These tables should be provided with drawers, fitted to a tote case built into the walls. A demonstration room to be used as a dining room, bedroom, and home nursing opens off the main room with a small



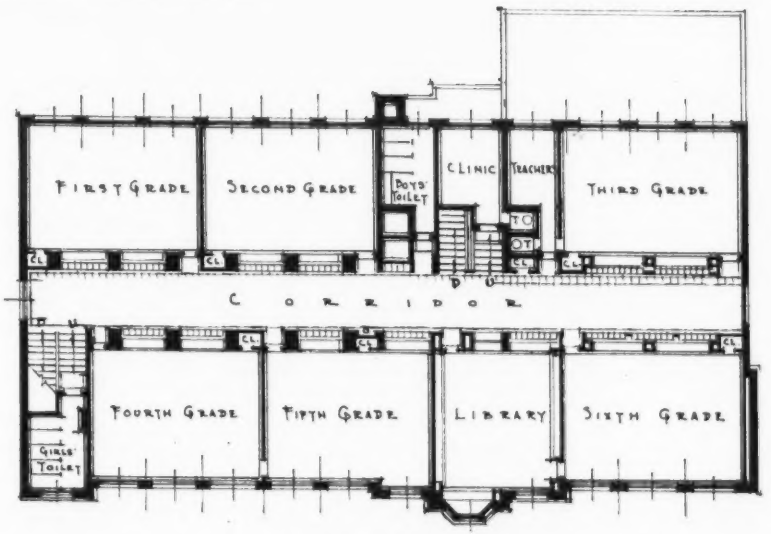
COMBINATION GYMNASIUM-AUDITORIUM, ELLSWORTH SCHOOL, NAPERVILLE, ILLINOIS
The Warren S. Holmes Company, Architects, Lansing, Michigan



ELLSWORTH SCHOOL, NAPERVILLE, ILLINOIS
The Warren S. Holmes Company, Architects, Lansing, Michigan



FIRST FLOOR PLAN



SECOND FLOOR PLAN

storeroom adjacent. (See plans for Kellogg and Almont schools.)

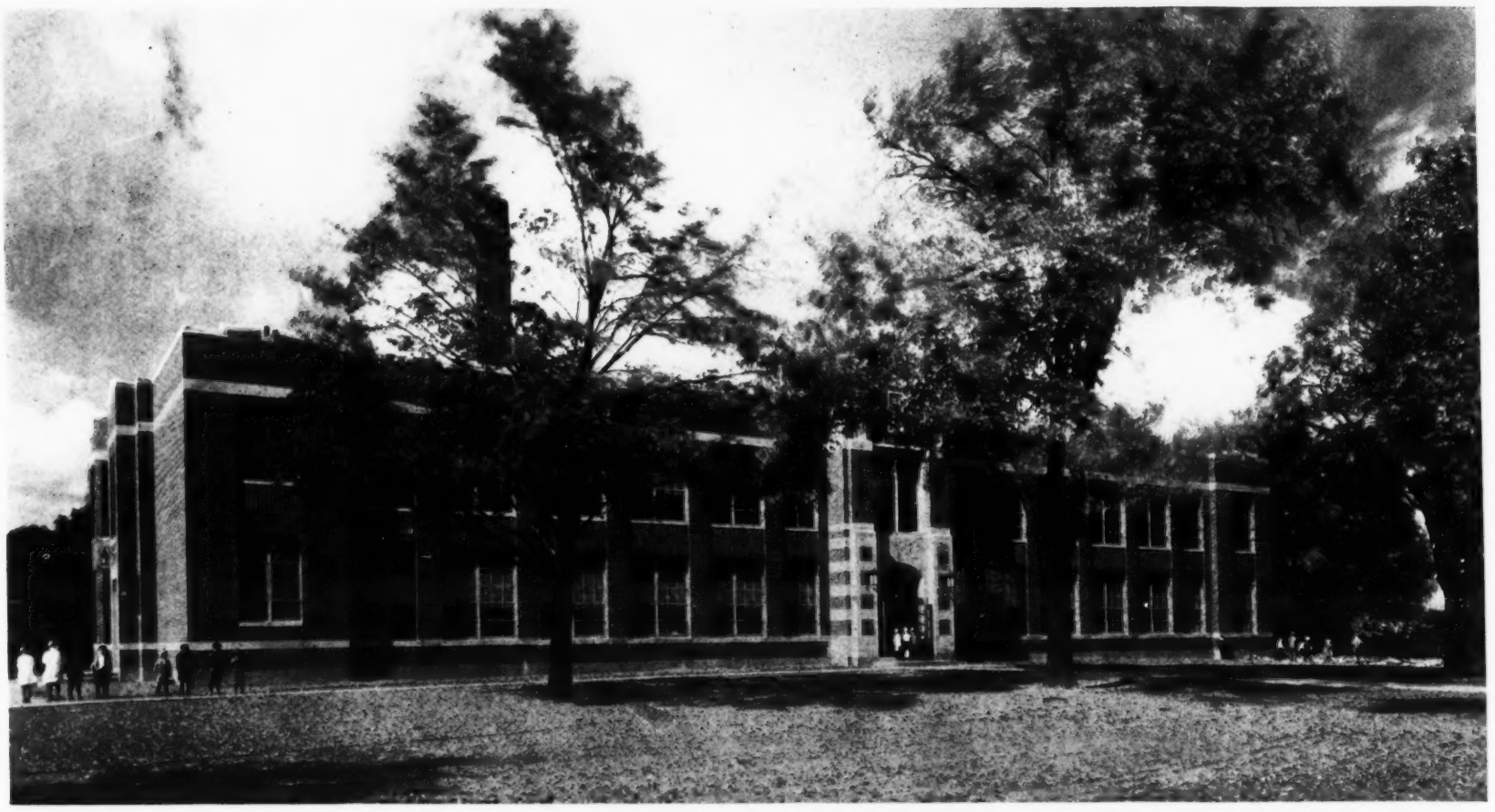
Multiple Use of Rooms—The combination rooms tell only half the story. It is necessary to design built-in cases for tote systems and student work so that each room may be used full time.

For example, the science teacher or domestic science teacher may teach an English or mathematics class. The furniture and built-in equipment must be such that the room is completely cleared after each class, so that whatever the teacher is called on to teach can be taken care of with facility in his own classroom, regardless of what the room was specifically designed for. To design such rooms that are entirely satisfactory requires much thought and experience, but the results are inevitably some of the most interesting classrooms found in school buildings, large or small.

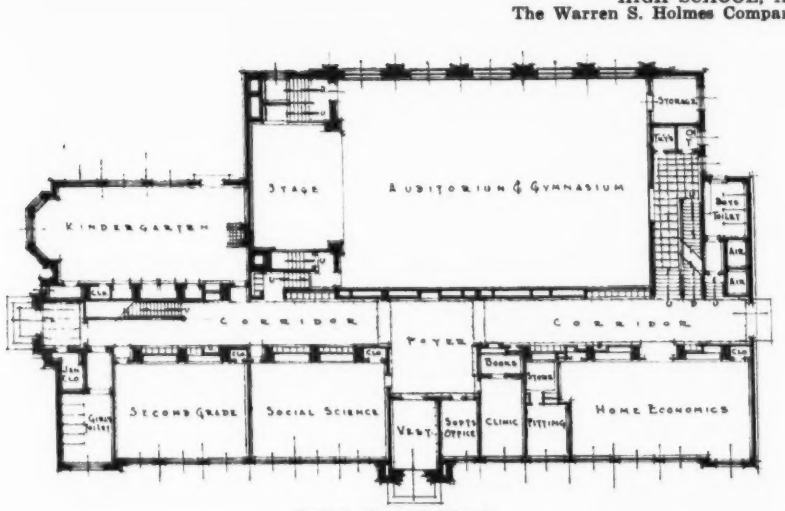
FLOOR PLANS
OF THE
ELLSWORTH SCHOOL,
NAPERVILLE,
ILLINOIS

The Warren S. Holmes Company,
Architects,
Lansing, Michigan

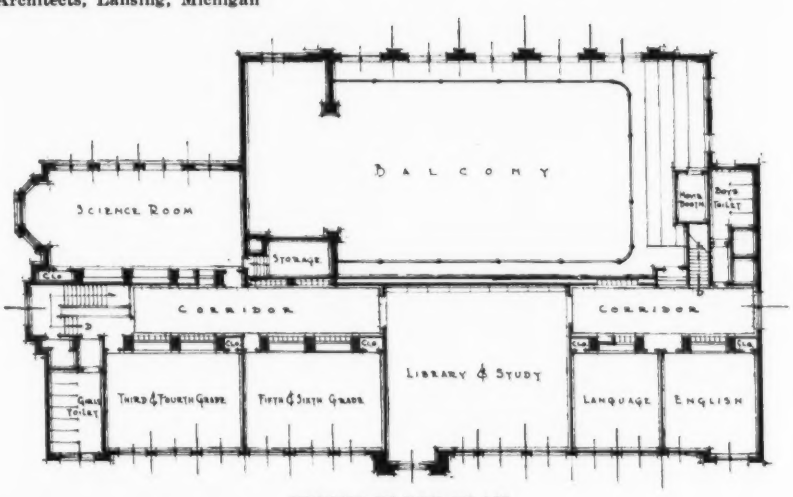
ELEMENTARY CLASSROOM, ELLSWORTH SCHOOL, NAPERVILLE, ILLINOIS
The Warren S. Holmes Company, Architects, Lansing, Michigan



HIGH SCHOOL, ALMONT, MICHIGAN
The Warren S. Holmes Company, Architects, Lansing, Michigan



FIRST FLOOR PLAN



SECOND FLOOR PLAN

HIGH SCHOOL, ALMONT, MICHIGAN
The Warren S. Holmes Company, Architects, Lansing Michigan

The Economies of the Plan

The economies in organization will often save as much as 25 per cent in the required size of small school buildings. Large savings are also effected in working out the plan and construction. The average instructional area in the five buildings illustrated is 58 per cent, as compared with 50 per cent set up by the N.E.A. standards.

This is a clean-cut gain of 8 per cent in total costs. It is interesting to note in this connection that the N.E.A. standards were made from much larger buildings, and the small schools very often have less than 50 per cent instructional area.

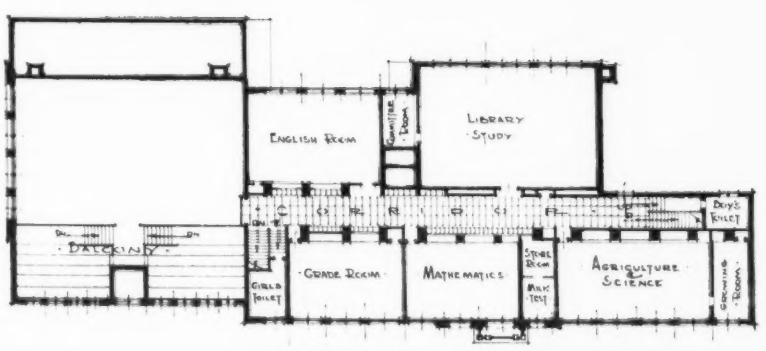
The plans of the Bath and Kellogg schools have 60 per cent instructional area. This is due to the position of gymnasium-auditorium, which constitutes a large percentage of the area of the plan. It requires no additional corridor space since it is served by the end of a corridor with rooms on both sides.

The locker, shower, and storeroom arrangements of this plan are worthy of study. The arrangement of stairs in the ends of the corridors in these two buildings which is very economical, is permissible for short corridors, but is not to be recommended in large schools.

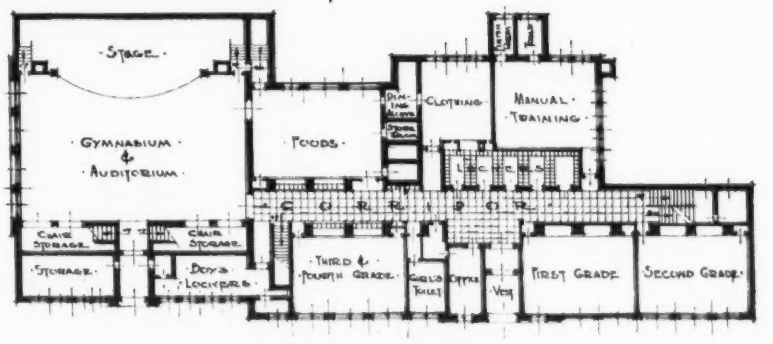
A combination of toilet rooms and stairs is shown in the Naperville schools, which saves one half the space usually allotted for these

COMBINATION SCIENCE ROOM, HIGH SCHOOL, ALMONT, MICHIGAN
The Warren S. Holmes Company, Architects, Lansing, Michigan

CONSOLIDATED SCHOOL, BATH, MICHIGAN
The Warren S. Holmes Company, Architects, Lansing, Michigan



SECOND FLOOR PLAN



FIRST FLOOR PLAN

CONSOLIDATED SCHOOL, BATH, MICHIGAN
The Warren S. Holmes Company, Architects, Lansing, Michigan

purposes. The first-floor toilet is three steps below the first floor, and the second-floor toilet three steps above the second floor.

In this connection, it is interesting to note that the number of toilet fixtures may be considerably reduced by instituting intermittent periods of recess.

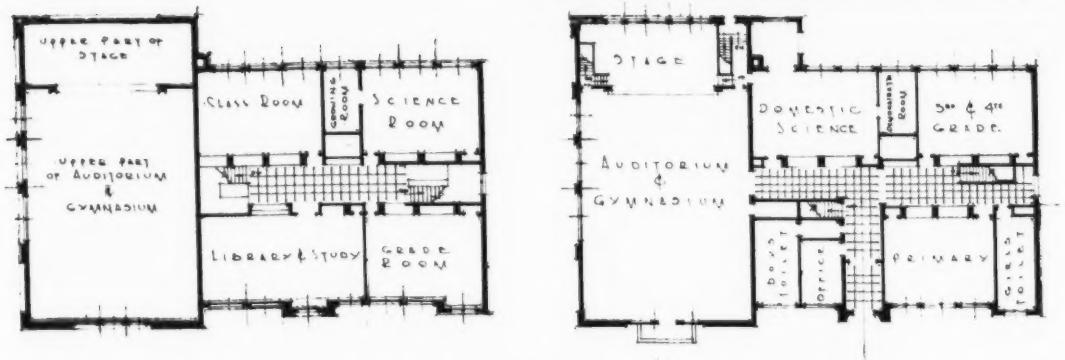
A 10-ft. unit system of planning and construction was employed throughout the classroom section of these buildings, which accomplishes even more proportionally for economy in small schools than for large ones. Each building has provision for enlargement and for changing room sizes or uses at minimum expense.

Basements are eliminated throughout, except for heating plants. Locker systems are used instead of coat rooms, except for primary children. Obviously, there are many minor methods of securing economies in planning small school buildings. Some apply to one plan and some to another, depending on conditions and sites.

A notable exception is made in the Almont school where a basement is used under the gymnasium only. The walls of a two-story school are usually about 33 ft. high. Obviously a gymnasium does not need to be this high so a story for shops, lockers, and heating plant, can be secured under the gymnasium floor by only going three or four feet below grade. These rooms below are also a fine protection to the gymnasium floor.

COMBINATION GYMNASIUM-AUDITORIUM, CONSOLIDATED SCHOOL, BATH, MICHIGAN
The Warren S. Holmes Company, Architects, Lansing, Michigan

THE W. K. KELLOGG AGRICULTURAL SCHOOL, AUGUST, MICHIGAN
The Warren S. Holmes Company, Architects, Lansing, Michigan



THE W. K. KELLOGG AGRICULTURAL SCHOOL, AUGUSTA, MICHIGAN
The Warren S. Holmes Company, Architects, Lansing, Michigan

KINDERGARTEN, NAPER SCHOOL, NAPERVILLE, ILLINOIS
The Warren S. Holmes Company, Architects, Lansing, Michigan

Economy has been stressed in these buildings, not because it is the most important consideration, but because appropriations are nearly always limited for small buildings, and unusual economies are necessary to secure those built-in features essential in giving the building its proper values.

It is common to find small school buildings (and large ones too) about the country so devoid of architectural and instructional merit that they are only worth half what they cost, regardless of how cheaply built.

On the other hand, no excuses need be made for making a school building plain with simple lines. It is good design and good education. No excuse is valid for limiting a school building to four bare walls inside and outside to save on the construction cost.

ADOPTS PROGRAM OF SCHOOL VISITATION

The board of education of Birmingham, Ala., like similar bodies in other cities and communities, is composed of busy individuals. As is commonly the case, the members of the board not only have personal and business affairs to manage, but because of the positions which they occupy in the community, have many civic, religious, and social demands made upon their time.

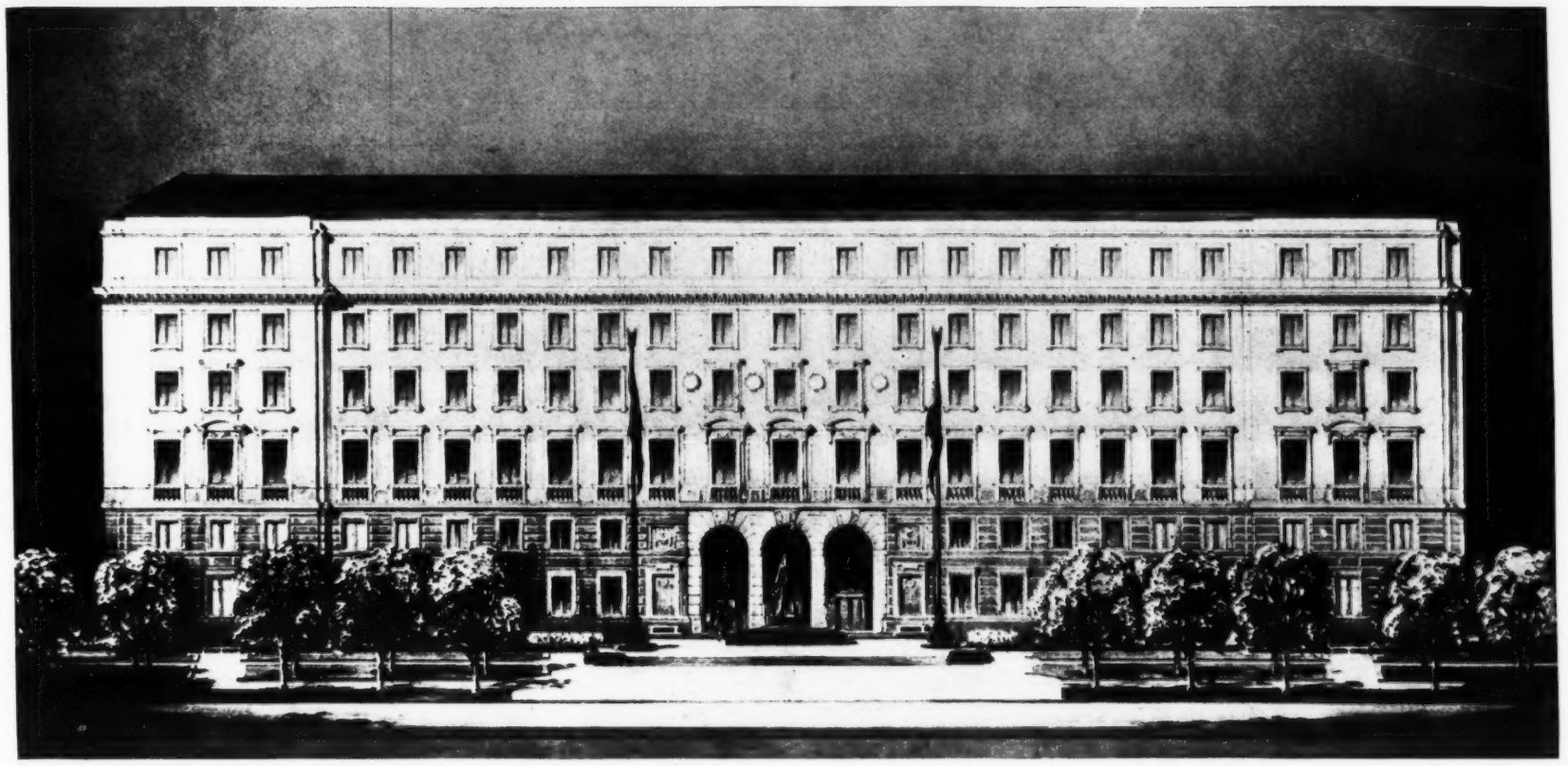
Realizing the value that comes from a personal contact with the schools, the board, by resolution, last year arranged to use the mid-month meeting in visiting some of the schools. Instead of meeting at 2:30 p.m. on the Friday nearest the fifteenth of the month, the board members meet at 8 a.m., and spend the entire day in following a carefully planned visiting schedule. Such a program includes an inspection of the physical properties, an observation of the classroom work, and conversation with the principals, teachers, and pupils. Frequently, committees from certain parent-teacher associations meet the board members at the schools visited.

During the nine months' school session last year, the board visited each of the 67 schools of the city. The initial trip this session was made on Friday, September 13, when the board endeavored to obtain a bird's-eye view of half of the schools. A schedule was arranged giving 10 minutes to each building, and at the end of the school day, 30 schools in two sections of the city had been visited. The next scheduled visit of the board was October 18, when the board completed the remainder of the schools.

In the opinion of the board, the personal visitation of the schools has proved of value both to the board and to the schools. The first-hand information gained, and the personal contacts and acquaintances made, serve to remove possible misunderstandings, and to enable the board to act more intelligently regarding matters which come before them.

—The entire teaching staff of the public schools of Lewiston, Idaho, has been organized into special committees, which will undertake an internal survey of the school system. Among the problems which will be taken up are textbooks, libraries, health, attendance, classification of pupils, care of the buildings and grounds, etc.

A teachers' club has been formed. The first meeting took the form of a banquet, with a program of speeches, toasts, and music.



ADMINISTRATION BUILDING FOR THE CLEVELAND BOARD OF EDUCATION, CLEVELAND, OHIO
Walker and Weeks, Architects, Cleveland, Ohio

CLEVELAND'S PROJECTED SCHOOL HEADQUARTERS

Excavation for a new $2,000,000 school-headquarters building in Cleveland, Ohio, is expected to start early next spring. A bond issue for the building was approved by the voters at the November election in 1928.

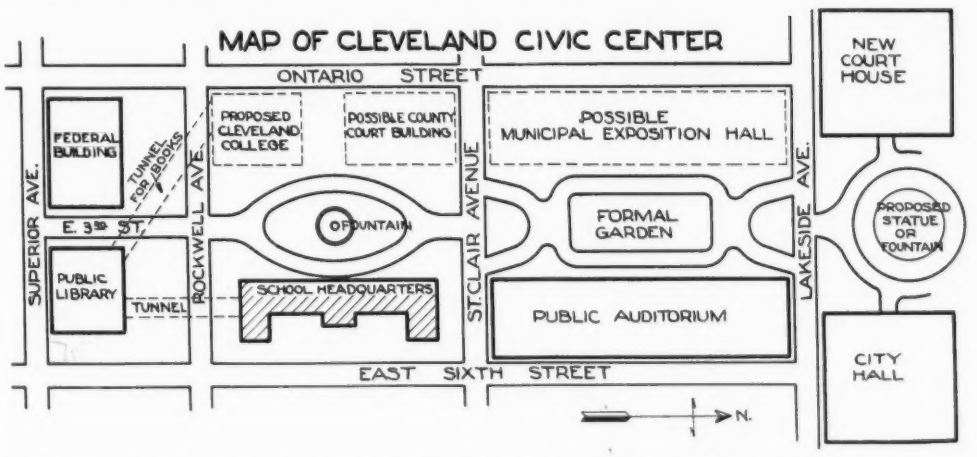
The building, designed by Walker & Weeks, Cleveland architects, will be part of the Cleveland Mall, or civic-center group, in the downtown area. It will face the Mall, which is to be a large landscaped area, covering approximately four city blocks.

The proposed building will conform architecturally and in cornice line with structures already erected on the Mall, which include the federal building, public library, new court house, public auditorium, and city hall. When completed, the Mall will represent a civic investment in lands and buildings of approximately $100,000,000.

School headquarters, the architects' front elevation of which, facing the Mall, is reproduced here, is to be a long, narrow building, extending almost an entire city block north and south from Rockwell avenue to St. Clair avenue. It will be six stories high. Since the structure is to be used for office purposes, the architects have achieved a compromise between the monumental and the utilitarian.

The rear, or East Sixth street, elevation of the building is quite as striking as the Mall frontage. Three bays are contemplated which, if future necessity requires, can be extended either horizontally or vertically as "set-back" towers. For the present, headquarters offices will preempt the first five floors. The sixth floor is reserved for expansion.

Bids will be taken on a basement garage to accommodate 112 automobiles. An auditorium to seat 400, for the accommodation of principals' and staff meetings, is included in the building plans. Since the public auditorium, with almost unlimited seating accommodations, is just across the street, its resources can be drawn upon for teachers' meetings and other large gatherings.



THE CAMPBELL OPEN-WINDOW SCHOOL FOR DELICATE CHILDREN

The open-window room in the Campbell School, LaSalle, Ill., established last September, is intended for the benefit of delicate and undernourished children. The children enrolled in the room have been selected from among the pupils of the first six grades by Dr. Ailes and the nurses of the hygienic institute, and all of them are free from any communicable disease. A total of seventeen children are accommodated in this special room, the majority of whom come from very good homes.

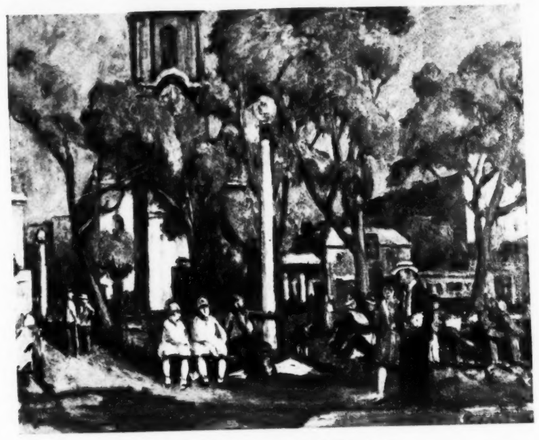
The classroom is conducted similar to a rural school, with all the grades, except the seventh and eighth. All the children eat their noon lunch at the school and take the rest period of one hour after lunch. Each child drinks one-half pint of milk during the morning and afternoon periods. The teacher in her regular work emphasizes the health phase. The nurse visits

(Concluded on Page 124)

CAMPBELL SCHOOL, LA SALLE, ILLINOIS

Milwaukee Beautifies Its School Buildings

A. G. Pelikan, Supervisor of Art, Milwaukee Public Schools

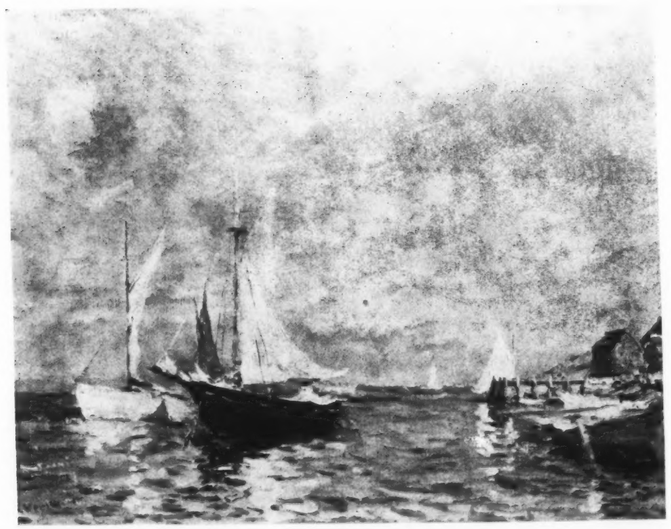


"COURT HOUSE SQUARE"
by Gerrit V. Sinclair

"THE AGE OF FUN"
by Francesco Spicuzza

The elementary and high schools of the city of Milwaukee enjoy the benefit of a traveling collection of paintings by Wisconsin artists. The black and white illustrations on this page give only a very faint notion of the life and color of five of the group of nearly 50 paintings which the schools now own. The collection is added to each year, following the annual display of the Wisconsin Artists' Association. The paintings are the gift of the "Milwaukee Journal" as a contribution to the educational advancement of the community.

"LITTLE GIRL WITH FLOWERS"
by Joseph Brzenk



"MAIN FISHING BOATS"
by Charles Ebert

"WINTER IN VILLAGE"
by Gustave Moeller

Stimulating the Growth of Teachers in Service

Walter R. Hepner, Superintendent of Schools, San Diego, California

As superintendents, our interest in the improvement of teachers in service is motivated by our desire to improve the teaching process which takes place in the classroom. The work along this line is, therefore, primarily concerned with supervision. For, if teachers improve, the net result will be better instruction. Therefore, the superintendent's work in this field is directed chiefly toward the creation of a physical and spiritual environment, in which both teachers and children can have freedom for growth. Consequently, it seems pertinent to direct our attention to present methods of supervision.

Marked Evidence of Supervisory Technique

Most of us will agree that one of the first steps in the development of a desirable classroom environment is to eliminate the dictatorial elements which seem to have crept into our supervisory process in the days of the scissors-and-paste-pot curriculum with its peremptory setting. In those former days the path was laid out, the hurdles were set, and the superintendent cracked the whip! Principals and supervisors were ordered to proceed as per instructions, and the whip was again used upon those whose slowness, or failure, or creative energy suggested a change in speed or direction.

But, we are learning, even as the salesman, that success comes not from "high-poweredness" characterized by too much directness and too much concentration upon our will and our desired purpose, but rather, that it comes by establishing a rapport, a mutual interest, and by introducing a seductive suggestion of need, together with the presentation of an article that will satisfy the need. Our attack now is more long-ranged, slantwise, and subtle, not so frontal or obtuse as to provoke unnecessary opposition or resistance.

The scene has thus shifted from the authoritative and mandatory relationships with the resultant gap between "superintendent-idea" and "teacher-idea" to the rapport relationships characterized by such phrases as "our system," "our philosophy," "our curriculum," and our methods," sincerely and frequently used by administrator and teacher alike.

The "we-spirit" between administrator and teacher releases creative energy and paves the way for an expanding vision and philosophy. The channels are open for suggestion and direction. The teacher grows, the administrator grows, and classroom instruction improves. As an administrator no matter how learned I may be, I *alone* cannot succeed. But with the teacher — we can!

Substitute Expectancy for Dictation

In our supervisory relationships with teachers we are gradually learning that to obtain the best results we must apply the same laws of learning as the good teacher applies every day in the classroom in her work with her pupils. She formulates in her own mind definite and realizable objectives. Then she manipulates the situation in order to get planned-for responses. She does not drive to get them. Rather she sets expectancy. And desired results are achieved. For it is a fundamental principle of human behavior that we strive to live up to what people in whom we have confidence expect of us.

It is an implied compliment to learn that those with prestige feel that we will do certain worthy and desired things. And we like to be complimented! Such faith releases creative energy. We strive to please, and more! Progress secured in this way in the long run is faster and more enduring than if sought by means of more direct and authoritative methods.

This method as applied to the superintendent's effort to improve teachers in service implies that the wires are clear for this expectancy to be communicated to teachers. The situation must be set in order to get the planned-for response, just as the teacher must create the situation in order to get her hoped-for result. The teacher's technique for creating this favorable medium is essentially based on her personal contact and relationships with her pupils. For superintendents in larger cities this type of relationship is difficult, but not impossible. Many devices are used successfully some in one system, and others elsewhere. Only a few of them can be mentioned here.

Policies That Are Sound

In the first place, all policies which affect the teacher must be sound not only from the administrator's point of view, but sound and fair from the teacher's vantage point. She must understand them. She must think of them as personally valuable to her. If she has had an opportunity to assist in formulating them or if she feels that she is free to make suggestions to modify them, directly to the superintendent in person, or to him through a teachers' council, and that her assistance is both welcomed and appreciated, the chances are most excellent that she will adopt them as her own. She will become a sales agent for them. The gap between the superintendent and the teacher is bridged.

And if the superintendent can keep an open-minded attitude on policies at all times, she will accept his decisions as necessities. She will feel their inherent fairness. In her there will develop a confidence in her superintendent. Consequently the superintendent will enjoy the reputation of being broad-minded, open-minded, and fair. Thus the personal relationships are established for the flow of influence from superintendent to teacher. The teacher is ready for food from her superintendent which will nourish her and make her grow in usefulness while in service.

Some superintendents make occasional visits to every classroom in their systems two or three times during the year. In larger cities these visits are necessarily brief. It goes without saying that classroom visitation of this sort cannot be classified as supervisory in a technical sense. And to serve their purpose they dare not be made too inspectional. For to the superintendent's visit there will soon be associated, more or less meritoriously, that atavistic term of that former day of authority and dominance — the superintendent's "snoopervisorial" visit!

The modern teacher now knows that few, if any, valid judgments concerning the quality of her work can be made by one who is virtually a stranger in terms of the daily program of the classroom, be he superintendent, supervisor, or layman. We have an awakened profession to thank for that! Our colleges and our professional literature have given the teacher not only information, but also a new attitude toward the classroom visitor.

Common Ground of Understanding

But if the superintendent goes to the classroom frankly in the spirit of friendliness he will be understood and again the teacher and the superintendent will be on the common ground of mutual sympathy and human understanding. Incidentally, the superintendent gains an "overview" of the classroom activities. He acquires certain insights, and by virtue of the experiences secured, he is better able to understand some of the problems of those who are closer to the frontier than he is. This understanding will be consciously and unconsciously reflected by him in his attitudes and in his policies, and happily, it will be sensed by the teacher. Thus the desired personal relationships are established.

Under the conditions created by personal relationships, vision, ideals, and ideas flow freely and naturally from one person to another. The stage for the teacher's growth in service has been set.

Develop Definite Means of Communication

Our efforts to improve teachers in service will be commensurate with our techniques for communicating our vision to those whom we presume to improve. Our own vision is founded upon our philosophy of life, our growing understanding of the world in which we live, and our ability to see the relationship of the specific idea, technique, or fact to the broader aspect of human living or to the professional goals for which we are striving.

This calls for a broad background of knowledge and experience. It demands a continuous practice of study, exploration, and reflection — in a word, scholarship. We much keep ourselves in the learning and sharing attitude if we would have those whom we attempt to lead to study, learn, have vision, and grow.

With the situation set for the favorable reception of philosophy and ideas it is the superintendent's responsibility to use definite means for their transmissal.

First of all, there are two current practices which all of us use, namely, the general teachers' meeting, at which the superintendent speaks, and the carefully selected and arranged institute. The present marked tendency to provide programs strongly tinged with the inspirational element bespeaks our effort to encourage the spread of philosophy and vision to the teacher.

A second device that could be more extensively and profitably used is the superintendent's message. This is issued weekly by some administrators in bulletin form and is placed in the hands of every teacher. In his messages the superintendent one week may discuss theory, in another he may present his views on discipline, and so on. By following this rather exacting procedure after rapport with teachers has been established through personal relationships, he has a most effective instrument for communicating his ideas and for stimulating the professional growth of members of his staff.

Well-Trained Group of Supervisors

Neither the professional meeting, nor the weekly bulletin, can compare in effectiveness with a well-trained group of supervisors. Naturally, the supervisors constitute the superintendent's most effective means of communication with his teachers. For, in any truly cooperative, democratic system, supervisors are neither enforcers of the course of study, nor are they teacher raters. Rather they are guides and inspirers. There is no substitute for these liaison officers in a school system.

Such persons, if properly selected, have scholarly habits. They possess extended, detailed, and up-to-date information in their special fields, in-

EDUCATIONAL MOTION PICTURES

The effectiveness of motion-picture films as teaching aids may be judged by the underlying philosophy upon which they are planned and produced. The film should be based upon a carefully prepared scenario. The scenario should be written by a practical classroom teacher of liberal training and successful experience. The plan of a scenario and the scenario itself should be criticized by a group of supervisors and specialists in education and the scenario planned for the definite purpose of supplementing instruction of a particular topic. The subject presented should be within the intellectual grasp of the people who are to use or to study it. The material to be presented in the film should be coordinated with the curriculum. In brief, the whole aim should be to present material rich in teaching value and adapted to the needs of the classroom.

—Thomas E. Finegan.

MISS AMANDA E. STOUT,
Superintendent of Schools,
Reading, Pennsylvania

Amanda E. Stout, formerly assistant superintendent of schools of Reading, Pa., on September 3, took over the duties of superintendent of schools, succeeding Mr. Landis E. Tanger.

Miss Stout, who has served the Reading schools for 47 years as teacher and supervisor, has been elected to complete the term of Mr. Tanger, which expires on July 1, 1930.

The new superintendent enjoys a wide, varied, and successful experience in the Reading schools and has a wealth of knowledge concerning the local situation which is of inestimable service to all departments of the district. She was appointed grade supervisor in 1905, and later was made general supervisor in 1910. During the illness of former superintendent Foos, she was acting superintendent during the period from 1913 to 1915. Since 1917 she had filled the position of assistant superintendent of schools.

formation made real through a full appreciation of its relationships with other fields of human thinking and endeavor and with other phases of the teaching process. And last, and most important, they have that indispensable personality commonly konwn as sympathetic, warm, and human. Supervisors of this sort constitute the superintendent's chain of service stations where teachers, principals, and superintendent, too, receive fuel and the other materials which are essential to professional life and growth.

A fourth device, one urged by many administrators, is attendance at summer sessions and university extension courses. However, to be most effective, superintendents must avoid too much stress upon objective devices for encouraging growth. We find ourselves at times measuring professional growth by credits accumulated by jumping successfully the hurdles of extension and summer courses.

We are reminded that, thus far, research studies have failed to report correlations that are either significant or conclusive between units of credit secured and improvement in teaching efficiency. The causes of this condition have as yet not been satisfactorily explained. Yet with our feeling of need for growth we seized upon the method of awarding bonuses for courses taken and of making training a function of salary schedules. These procedures we shall probably continue to follow to some extent, but our fullest contribution to the teacher's growth is not made in this way. Certainly other devices are necessary.

Like Principal Like Teacher

The building principal is a strong link in the chain of communication. In fact, much of our work in this teacher-improvement endeavor we must secure through the building principal. We have often said "Like teacher like pupil." We can further add — "Like principal like teacher." If principals are growing, it is almost safe to conclude that teachers are growing. Superintendents, by their example and leadership, and by their definite counsel and guidance can assist the principal in becoming a more important factor in the teacher's growth. The constant association of principal and teacher in the solution of problems of control, of curriculum, and of method is at the very basis of teacher improvement. Naturally the superintendent can be of assistance here. In the San Diego public schools, for example, among other procedures, we have organized our principals into groups for professional study. In the first place all principals, supervisors, and vice-principals are organized into one group. The various divisions of this report present to use both a most progressive point of view and discriminating material upon many of the different phases of education. Our plan calls for the reporting of a particular unit of this material by the person best qualified to handle it. The reporter supplements the report with a statement of our own work in this field. Following the report comes discussion, evaluation, suggestion, and criticism by the members of the group. The idea underlying this project is to provide the opportunity for acquiring perspective, vision, and possibilities for correlation of our many educational activities, and improvement. Growth and vision should follow.

This larger group is divided first into three main subdivisions — the secondary principals' council, the elementary principals' council, and the council of supervisors and directors. The elementary principals are further organized into four sections on the basis of school enrollments. Each group has a program committee whose responsibility it is to develop a program for the year adapted to the needs of the group. The programs are developed in cooperation with the members of the group and with the superintendent concerned. Thus the principals meet in mutual interest groups. They have a definite program. The seminar technique is employed. And the superintendent is in a natural position to multiply his helpfulness to the members of his staff.

To recapitulate briefly, one of the superintendent's most important functions is to create the favorable media in which teachers will grow during service. His work is best done if he extends his scholarship and keeps open the portals of his own vision. And then by establishing professional rapport through the soundness, fairness, and democracy of his policies, and by personal contact with his staff in general meetings, in group meetings with his principals and his supervisors, the ideas which he wishes to be accepted are readily and easily communicated by the many devices ready to his hand. And they will be welcomed and find fruition in the system over which he supervises. Thus he eliminates archaic authoritarianism, and develops a "we-feeling" between administrator and teacher. And thus he serves as leader and inspirer, friend and fellow worker. The situation for the planned-for response has been created, and growth in service is assured.

MR. CARL Z. JACKSON,
President, Board of Education,
Pasadena, California

Mr. Jackson, who was recently elected president of the Pasadena board of education, has been a member of the board for the past two years.

He was graduated from Bates College in 1910, with the degree of Bachelor of Arts. After graduation, he was employed in a commercial office for a time. Later he went to Pasadena, where he spent some time evaluating the property of several water companies about to be taken over by the city. He was employed by the city water department for a number of years, but later resigned to accept a position on the staff of the First Trust & Savings Bank, of which he is now vice-president.

The Relationship of the Superintendent and Principal

Since the welfare of the schools, and the success of both the principal and superintendent in the community, depends upon the friendly relation and cooperation, and a proper understanding of the authority and responsibility of each, both of these officials should have a definite understanding of the duties and relations of each. With this idea in mind, Mr. C. E. Collett, of Lexington, Nebr., in an address before the superintendents' section of the Nebraska Teachers' Association, outlined the duties of the school principal and superintendent. Mr. Collett spoke in part, as follows:

"The duties of a principal may be classified under four general heads; namely, organization, administration, supervision, and social. The present paper limits itself to the first three of these studies. The duties and responsibility of the principal varies with the size of the school. In the smaller schools of the type discussed, the superintendent performs a good deal of the work assigned to the principal of the larger school.

"It is true that the principal should have more of the responsibility connected with the management and discipline of the school, but his relation and position in the school should be the same as that of any teacher on the staff when it comes to final authority and the making of decisions in policy.

"The superintendent and the principal should be colleagues. If the principal is to exercise many of the duties and to assume the responsibility for administrative and supervisory duties in the school, he must be more than a rubber-stamp official. He should be given credit for the things he does, since he assumes the responsibility for the success or failure of the school.

"If differences exist in the management of the school, they should be discussed in a fair and friendly way. The principal should submit to his superior officer, if he cannot convince him of the worth of his plan or judgment. If there is a disagreement on policies or performance of work, they should not become common knowledge in the faculty or the community.

"Since the welfare of the school and the success of the superintendent or principal depends upon the friendly relation and cooperation, and the proper understanding of the authority and responsibility of each, both of these officials should have a definite understanding at the beginning of their work as to the limits of each one's work. In the small school, an aggressive principal may become offensive or a trouble maker. On the other hand, the superintendent in a smaller school should delegate a certain

(Concluded on Page 107)

Progress of Hearing Tests in American Schools

Harvey Fletcher, New York City

In 1919, when the American Federation of Organizations for the Hard of Hearing was organized, very few schools in this country were making systematic tests of the hearing of school children. Now there are more than 100 cities making such systematic hearing tests. The various health organizations have always realized the need of such tests, but it was not until the Federation made an intensive effort to solve this problem, that suitable equipment was made available for testing large groups of children at a rate which is practicable.

In 1926, Dr. Fowler and I presented a paper before the American Medical Association entitled "Three Million Deafened School Children —Their Detection and Treatment." We have received some criticism from a few of the more conservative health workers for using such an extravagant title. It is evident that we chose it partly for propaganda purposes, for which it has served very well, since it has stimulated considerable interest in this problem among school officials, and stirred some of them into action toward taking care of the deafened child in the schoolroom.

Differentiation in Hearing

It is obvious that there is no definite differentiation between the deafened and those of normal hearing, since there are degrees of deafness from normal to totally deaf. The number that falls into the deafened class then depends entirely upon the hearing limit set for differentiating between the normal and abnormal hearing. Such a limit is necessarily arbitrary and can be ultimately fixed only by practical experience. While gaining this experience a tentative limit must be set. In terms of the new hearing units, this limit has been set at six sensation units. The following will illustrate the meaning of this limit. Suppose a group of persons of varying degrees of acuity of hearing are placed in an open field in which there is no noise. If a sound source is brought toward them, those having normal hearing will perceive it when it gets to a certain distance, D. A person having a hearing loss of six SU would then hear the sound when the source is brought up to a distance of ½ D. Those who would not hear until the source is brought closer than would be considered in the deafened class. These relations are true only when the source of sound and the listeners are in a perfectly quiet place and where there are no reflecting walls. Such an ideal place cannot be found, and approximations to it can only be found in some of the larger experimental laboratories. In most schoolrooms, the noise is sufficient to cause a deafening effect of 15 or 20 SU and serious reflections occur from any open source. Consequently, in such a room any deafness less than about 20 SU cannot be detected by direct speech tests or by any other open source of sound, and certainly would not be noticed by the teacher in her regular classwork.

By means of the phonograph-audiometer, the instrument developed by the Bell Telephone Laboratories at the request of the American Federation of Organizations for the Hard of Hearing, hearing losses as small as 6 SU can be detected if the room is fairly quiet, for with this instrument the sound is delivered directly to the ear by a telephone receiver. By placing the receiver tightly over the ear the noise is reduced 15 or 20 SU. The reduction of noise reaching the ear depends upon how tightly the receiver fits. For this reason special attention should be given to adjusting the receivers on the childrens ear's and to finding a quiet room. However, it is evident that with such an instrument reflections from the room do not complicate the results. With this instrument 40 children can be tested at one time. Probably most of you are familiar with it, but for those who are not I will briefly describe it.

The "phono-audiometer," as it is called, is a phonograph to which has been added telephone equipment. The record generates an electrical counterpart of the sound, and this is reproduced by as many as 40 telephone receivers distributed throughout the classroom. The speech sounds are thus heard by each child in only one ear at a time, so that the ears may be tested separately. In the record used on the phonograph, first a woman and then a man are reciting numbers in gradually decreasing loudness as though they were walking away from the listeners. The children under the test write the numbers they hear on a prepared record sheet, which can be corrected and the child's hearing thus graded. The audiometer has been calibrated by testing a large number of children having normal hearing. The reproduced numbers decrease in three SU steps until the sound has been attenuated thirty SU. The intensities of the sound reaching the ear by means of this instrument are equivalent to those which would be obtained when a person speaks with the average intensity, first at a distance of 40 feet from the listener and then walking away to a distance of 1,200 feet, assuming, as mentioned above, that the speaker and listener are in a quiet place.

Quiet Room Necessary for Testing

It is estimated that approximately one million children have now been tested with this instrument, and the results indicate that our first estimate was not very far wrong, although somewhat too high if we use the limit mentioned above. In some instances, however, a much larger percentage of hard-of-hearing children were found than would be expected. I am convinced that in most all of these cases it was principally due to testing in a noisy place. It is evident from what has been said that, when the noise is sufficient to cause a deafening of more than fifteen SU, the tests will indicate how well the receivers are adjusted on the children's ears rather than the degree of deafness which each one has. I fear that in too many cases the results do not indicate at all the children who are hard of hearing, except those who are very hard of hearing. Although considerable stress has been placed upon this point, it is still not appreciated as it should be by those who are making the tests. Those making the tests frequently complain, however, that they cannot find a quiet place to make the tests. *If a quiet room cannot be found it is useless to make the test.* As a matter of fact it is worse than useless, because it carries a wrong impression. When the children are sent to an otologist after such tests for an examination and he finds that they are not hard of hearing, it puts the audiometer in disrepute and discourages those trying to introduce such tests.

A questionnaire was sent to the various users of the audiometer throughout the country, and it may be interesting to summarize their experience regarding the difficulty of obtaining a quiet place for making the test. Some suggested covering the ear not being tested. This might assist in preventing the child's attention being diverted momentarily, but we know that the amount of noise, usually encountered in a schoolroom, which goes into the ear not being used in the test will not reduce the ability to hear in the opposite ear. It is noise which leaks under the receiver and gets into the ear being tested which causes the trouble, so any auxiliary apparatus used to cover the free ear will produce little help. Some of those making the tests tried to locate the testing headquarters on the top floor of the school building. In this way the overhead noises are eliminated and the loudness of street noise reduced. In addition to selecting the most quiet place in the school, it is necessary in many cases to suspend noisy school activities while the tests are being made. In some schools this means the suspension of kindergarten, gymnasium, playground, and music-room exercises. In one city, they are considering building a soundproof laboratory at a central place, to which all the children will be taken by means of a bus. This would be an ideal way to make the test, but in most school districts I think it will be impractical. Let me repeat again that, unless a quiet place can be obtained, it is useless to make the tests by any method which has yet been developed.

Maintenance of Testing Apparatus

Another matter which has not received sufficient attention is the proper maintenance of the testing apparatus. To keep the telephone receivers in good condition the caps should be loosened and then tightened every morning before beginning the tests for the day. Especially is this true in the winter time, when the receiver will be subjected to large temperature changes. This change in temperature may produce a change in the efficiency of the telephone receiver which may be immediately rectified by the above procedure. It is a good plan to have a supply of receiver diaphragms on hand so that when a child dents a diaphragm by poking his pencil into it or by dropping the receiver, or by any other means, a replacement can be made immediately. At least once a month the receivers should be tested by a listening test, which is made as follows: A phonograph record which can be supplied upon request produces a complex tone at constant intensity. By using this record the sound from any two receivers can be directly compared by listening. If there is an obvious difference in intensity the receiver should be investigated. If changing the diaphragm does not rectify the trouble it should be shipped back to the suppliers for repair.

Variations in Results of Tests

The results of hearing tests indicate that, if a large group of school children are tested, from 4 to 8 per cent of the children will fall into the deafened class when the limit of six SU is used. If a greater number than this is found one should be very critical first of the noise conditions under which he is testing, and second, of the apparatus being used. Of course, these figures hold only for large groups. From fewer tests the following tentative conclusions have been drawn. If the same group is tested periodically each year the same children will not fall into the deafened class. About one third only will be the same children; one third will be children whose hearing will fluctuate between the normal and the deafened class; and one third will be those who fall into the deafened class but once. These variations are due to two causes, variations in the hearing ability of the children at different times, and variations in the apparatus and observational errors in making the tests. It is difficult to separate these two causes, but I am convinced that when the tests are carefully done, a large part of the variations are actually variations in the hearing. The fact that such variations exist indicate the need of periodic tests. It is the first two groups that need serious attention.

To show the variation of hearing in children, I shall present these five charts, which show the results of careful audiometer tests made in our laboratories in a soundproof booth on a

(Concluded on Page 122)

[1]A paper read before the joint session of the American Public Health Association and the American Association of School Physicians at Minneapolis, Minn., October 1, 1929.

THE AMERICAN
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WM. GEO. BRUCE
WM. C. BRUCE } EDITORS

EDITORIAL

ENLISTING DESIRABLE SCHOOL-BOARD MEMBERSHIPS

When the time arrives during which the community must give thought to the election of a board of education there is more or less doubt and uncertainty as to who wants to become a candidate and who ought to become a candidate. The fitness and availability of this or that citizen may or may not be clear. Certain it is that the most capable are least likely to enter the race, more specially if the same promises to become spirited and acrimonious. On the other hand, the less-desirable candidate is usually on the scene.

In the preliminary stages of a school-board campaign someone must exercise an impartial judgment as to who should be urged, if urging be necessary, to become a candidate. Character, fitness, and prestige must guide. All men owe something to the community, and the man or woman eminently fitted by virtue of mental attributes and experience in the affairs of life to assume an important public task, must not shrink in the face of a campaign.

At any rate, while it is necessary to encourage the desirable citizen to make the run, it is equally important that the undesirable be discouraged from entering. The editor of the Terre Haute, Indiana, Star discussing this phase of school campaigns, says:

"In view of this fact it will behoove the unknowns to save themselves time, trouble, and chagrin and stay out of the race entirely. In fact, a person who has some political ambitions, but who knows that he hasn't any chance whatever in the school-board race, will be performing a patriotic and civic service by refraining from entering the campaign and thus helping to keep the ballot short.

"To be beaten in any sort of election is not a pleasant experience, for the reason that once in a race the candidate begins to suffer from autohypnosis, and soon has himself kidded into believing that he cannot possibly lose. Therefore, in entering the lists for school-board memberships, it will be well for every person, no matter how sincere or honest in his views and motives, first to stop a moment and consider just what chance he has against this prominent citizen or that prominent citizen who has agreed to run for a place on the board."

Here the editor draws the line between the unknown citizen, and the so-called prominent citizen. This distinction is not altogether a tenable one. A better distinction would be to merely draw a line between the known and unknown, or better still, to distinguish between known merits and unknown demerits.

The citizens who had shunned the limelight of promience may possess in a high degree the qualifications for public service. His merits must be known, however, in order that a vote may be cast for him. But outstanding prominence alone cannot become the determining factor unless that prominence has hitherto expressed an active concern in community progress.

In the creation of a board of education it is well to remember that the democratic spirit, upon which the institutions of the nation are founded, must be recognized. This means that even the citizen in the humbler walks of life may be elevated to participation in the public service, provided he is morally and intellectually competent to perform the duties that must be exacted.

THE MODERN TREND IN SCHOOL LEGISLATION

The several state legislatures are engaged annually or biennially in considering new school laws and in amending old ones. The constant growth in the school population and the expansion of the school activities require from time to time adjustments and readjustments in the laws governing the machinery of popular education.

During the period of 1926-28 approximately 1,200 educational acts of general application passed through the several legislatures. So reports the Office of Education of the Interior Department. The outstanding feature of this legislation is that it reveals the tendency to base new laws upon conclusions reached through the employment of educational surveys.

That is sound. The educator is thus equipped with facts and figures and may argue his case before a legislative body wth the assurance that he is on the right track.

During the period above cited, several legislatures have engaged in revisions and codification of the school codes of their states. They have clarified involved statues, and have rendered them more accessible to those called upon to consult them.

The question of school finance has concerned nearly all states. Here it has not only been the effort to secure adequate state funds in order to relieve distress in the weaker districts, but also to agree upon an equitable plan for the distribution of school support. The increase in the rate of taxation has caused much debate and some vigorous opposition. But the fact that the public demands more of the schools than it ever has before has also enabled a more generous school support.

One of the innovations in the field of school administration, which has engaged the attention of several state legislatures, related to the matter of units of control. The measures dealing with the subject have sought to weld the district system into a county unit upon the argument that the larger unit will bring the integral parts under better control and result in greater efficiency.

Here the report of the Office of Education states that "As compared with other governmental or civil units, the county entered the business of administering public education somewhat late. In general, the community unit, township or district, was the first in the field, but since the beginning of the present century the county has rapidly attained an important place in public education. There is a decided trend toward placing greater responsibility upon the county as a unit in educational affairs. The enhanced importance of the county is the result of the assumption of responsibilities formerly exercised by the district rather than those exercised by the state."

The merits of the change from the district to the county unit of school government cannot be seriously questioned. And yet it has been found that the change wherever proposed has met with resistance which, in instances, was strong enough to defeat legislation providing for the change. The rural-school trustee does not care to relinquish his control of the school of his district. He holds to the thought that the school is the immediate concern of a taxpaying constituency.

On the whole, it may be said that the tendency to provide larger units in rural communities is manifest. It has resulted in the abandonment of the small schools, especially the one-teacher schools, and has led to larger school buildings. The so-called consolidated school, with a course of study comparable to that of the urban school, and the introduction of pupil transportation, is constantly growing in popularity.

HOW POLITICS MAY EMBARRASS A SCHOOL SYSTEM

When the politician of any community is permitted to use the local school system for the furtherance of his private ends, there can be but one logical outcome. Trouble is invited. Humiliation, chagrin, and scandal are sure to follow.

The board of education of Chicago, which has permitted its school system to be drawn into the political turmoil of that city, provides the latest example of the embarrassments that may follow a procedure of that kind.

During the last municipal campaign, Mayor William Hale Thompson, then a candidate for reelection, charged William McAndrew, superintendent of schools, with being in league with King George of England, with promoting British propaganda in the schools, and with being an all-around renegade to the cause of American institutions. The removal of McAndrew became a leading issue in the campaign. Thompson was reelected and his appointees on the board of education carried out the campaign promises. McAndrew was removed.

Now comes the aftermath. It was charged during the campaign that Muzzey's "American History" used in the Chicago schools, was badly tainted by the British virus. Former Congressman John G. Gorman was chosen as the authority to examine all school histories and to tell the world all about them. He responded unflinchingly, and rendered a verdict that proved a crushing blow to Muzzey's history and McAndrew's status as an educator.

Since then the author, Dr. David Saville Muzzey, has gone to the courts and compelled the accusers to prove their case. Then Gorman wilted, admitting that he had not examined the textbooks thoroughly, and submitted a retraction and apology. The suit was withdrawn. He also admitted that the removal of McAndrew was "a blot upon the educational reputation of Chicago."

And so the conspiracy came to a humiliating ending — humiliating to the members of the board of education who responded to the dictates of a political boss — producing the one outstanding lesson, namely, that there must be a total separation between the school interests and the political manipulation of an unscrupulous city administration.

Someone has now risen to the thought that an apology ought to go to Dr. William McAndrew. Well, the apology would not reinstate him in his former position, nor restore confidence in the men that dismissed him. There is, however, some virtue in admitting an error, and expressing some form of regret over the trouble that has unnecessarily been caused.

IS THERE SPORTSMANSHIP IN SCHOOL ADMINISTRATION?

It would seem that in the range of school administration, with its prosaic deliberations and matter-of-fact turns and conclusions, there can be no situations which involve the element of sportsmanship. The come and go of things in a school system have nothing of the dramatic dash and enthusiasm which attend the exercise of physical skill and spirit of contest cultivated thereby.

And yet, there are situations which put to the test of the sportsmanship of the board of education member, individual and collective. That test comes particularly into play when the transition period of one administration to another is in progress, when one member ends his term and another begins, and when the retirement of an old and the entrance of a new board of education is in progress.

There is customarily exercised a certain courtesy which a retiring board of education

extends to an incoming board of education. Loose ends are gathered in and a clean slate is provided by the outgoing body. The new must not be given cause for criticizing the old. The transition from one to the other implies an attitude which spells good will and an attitude of helpfulness to the new administration. The retiring member is sometimes subject to a sense of relief and satisfaction in being able to relinquish the burden of official responsibility. But there is the other type of retiring member who is filled with regrets and sometimes actuated by a feeling of resentment. He may have been defeated in a spirited school-election contest; unfair campaign methods may have been employed, and inferior candidates may have been chosen to succeed him. All these things do happen.

There are instances on record, and they come to the surface quite frequently, where a retiring board of education in a spirit of resentment seeks to tie the hands of an incoming board in the matter of contractual relations. The superintendent of schools who has heretofore been elected for one year is given a three- or five-year term on the eve of the old board's existence. A pending building contract which might well be left to the discretion of the incoming board is suddenly closed, teachers, whose professional ability is questioned, are reappointed, etc.

It follows, in the nature of things, that a retiring board of education should clean up its own odds and ends. Nothing should be left for the disposition of the incoming board which properly comes within the province of the old. The slate should be as clean as possible.

But a retiring body cannot consistently tie the hands of the succeeding one in matters which logically belong to the new administration. In the transition from one administration to another it does not always follow that all the old members retire, or that the succeeding administration consists entirely of new members. There are usually a set of holdover members who are entirely familiar with the plans and projects in hand and with the needs of the future. The continuity of administrative service is thus conserved.

The exercise of common courtesy, or true sportmanship if you will, demands a due recognition on the part of the one of the prerogatives and rights of the other. It requires a real sportsmanship to accept defeat gracefully, and to assume a courteous and helpful attitude toward a successor. The high purpose of the public school system, rather than personal considerations, must animate the board of education member whether he be at the beginning or at the close of his term of office.

MAJORITY FACTIONS IN SCHOOL-BOARD DELIBERATION

The history of legislative bodies notes that there is a fixed custom to divide themselves into majority and minority groups in accordance with the political affiliations of the members. When such groups rival with each other in rendering valuable service to their constituency always keyed upon broad patriotic lines, the party system is fully justified. Where the tendency is to place party prestige above the general public welfare the system becomes vicious and intolerable.

There are boards of education in the United States, many of them, that are chosen and organized upon partisan lines. Some of these proceed upon the thought that distinctive service makes for party prestige, while others permit their party zeal to overshadow their concern for the real task in hand. Still others, and fortunately they constitute the larger fraction, ignore party considerations and work in a joint and harmonious fashion for the welfare of the school system in their charge.

The evil which crops to the surface here and there is where board-of-education members have intrenched themselves into majority factions and have shaped policies and projects in the light of individual or group interest. Such tactics have invariably led to bitter antagonisms and in instances to scandal. A false notion of loyalty and sportsmanship has prompted a member to pull with member friends, and to oppose others upon personal grounds. Such a course blinds the member to the higher objectives to be sought.

Where a group has been welded into a formidable majority, it possesses the power to lord it over a helpless minority. The latter may, in a courageous way, stand for the right measure, but when it comes to a vote it meets with defeat. Resentment is engendered and retaliation is planned. Each faction becomes solidified, and wedged into a position from which it believes that it cannot honorably recede.

The error proceeds from the belief that a member in the deliberations in which he engages may represent either a ward or district, a political party or group, or merely himself and his friends. He overlooks the fact that no matter what ward he hails from, or what political party elected him, he is the representative of the whole community and that he has but one interest to serve, and only one, and that is the mental, moral, and physical welfare of the child.

SCHOOL-BOARD MEMBERS FINANCIALLY INTERESTED IN SCHOOL CONTRACTS

There is perhaps no situation in the field of school administration which in the past has led to greater embarrassments than that which concerns itself with unlawful business transactions engaged in between members of boards of education and the school system. The latter are not permitted to become financially interested in any sales or contracts engaged in between themselves and the schools. The statutes of the several states provide against such transactions.

One of the difficulties which has arisen has been in drawing the exact line between the lawful and the unlawful. The intention of the statute is that a member of a board of education shall not profit by any transactions engaged between himself and the school system. But supposing he happens to be financially interested in a business concern which regularly does business with the school system or those connected with the same.

We have in mind here the citizen who is the president of a bank and at the same time a member of a board of education. His bank carries the deposits of the school system and those of many of the teachers. There is the man also who is a partner in a mercantile house and also a member of the school board. His firm has for years sold goods to the school system and to the teachers. The prestige of his office may stimulate these business relations which he has not particularly sought.

Then there is the physician who secures an added prestige by virtue of service on the board of education. Among his patients he numbers some teachers and pupils. The same applies to the lawyer who is a member of the board. Such connections bring both teachers and the parents of school children to his list of clients.

There is, of course, a distinct difference in dealing directly with the school system as such and the several persons identified with the same. But even so, the exact line as to the right and wrong is not always clear.

At Iron River, Michigan, just such a case is presented. Harold Lindahl, a member of the board of education happens also to be the representative of the International Harvester Company. The board recently bought a school bus from the company. A state statute forbids members of school boards to become financially interested in dealings with the school system. A petition for Lindahl's removal from office has been filed with the Governor. Lindahl claims that he does not receive a single cent out of the transaction.

In comment on the case the Iron Mountain News says: "The issue raised by Lindahl's act is an old one, and one that it apears impossible to get finally settled, perhaps for the reason that literal enforcement of the law would work out disadvantageously to the public about as often as it would work out to its advantage.

SHALL HIGH-SCHOOL AUDITORIUMS EXACT RENTAL CHARGES?

The increase in the number of splendid high-school structures throughout the country and the introduction of spacious auditoriums has prompted considerations along the lines of their management and control. The use of the auditorium has necessitated definite regulatory measures.

The school administrators throughout the land are not as yet of one mind on all phases of the subject. There are those who throw the high-school auditorium wide open to the free use by the public for civic, patriotic, and social purposes. This promiscuous use of this utility has led to abuses and embarrassments. It has here become the question as to where to draw the line between inclusion and exclusion.

But the tendency has been in the direction of regulatory measures and the exaction of rental charges. The equities of the situation have demanded definite rules. Thus, to begin with, all religious and political gatherings are barred. Lecturers who propose to discuss controversial subjects are excluded. A clear-cut line is drawn between functions which come within the province of the school and those which concern the general public.

A rental charge is fixed which does not contemplate a profit but aims to cover the cost of light, heat, and janitor service. The objection sometimes raised to any rental charge is based upon the idea that the auditorium belongs to the public and therefore should be at the service of the public free of all charges.

The answer to the objection is that when the public is mentioned in connection with the use of a high-school auditorium, it merely means a group or fraction of the citizenship and not the entire public. There are many societies, clubs, and associations that maintain their own halls and meeting places. If all of them demanded the use of public auditoriums many more of such auditoriums would have to be provided. In justice therefore to a nonusing public, those who do use the public utility should at least cover the immediate expense connected with such use.

In some communities the question has arisen as to the privileges to be enjoyed by school officials at functions staged by outside groups in high-school auditoriums. Shall the superintendent of schools and his staff, the president of the board of education and his associates enjoy free passes and reserved seats?

It would seem that the common equities and courtesies which obtain elsewhere should govern here. The school officials and the general public stand here somewhat in the capacity of manager and patron, or in the relation of host and guest. The courtesy of extending privilege lies in the hands of those under whose auspices a function is given and who pay the rental charge. At any rate, the matter is too trifling, and inconsequential to be dignified into given rules and regulations.

The place which the modern high school occupies in the community, and the splendid utility afforded in a well-arranged auditorium, necessarily invites a definite understanding as to the use of the structure for other than strictly school purposes. The question of a free use or a rental charge must be determined. Likewise, the character of the several functions to be admitted. The average high-school auditorium has become an institution which must retain its prestige as well as its utilitarian character.

The Illinois School-Board Association Holds Helpful Meeting

Resolutions to Investigate Abuses Practiced by the Board of Control of the Illinois High School Athletic Association, and to Appoint Membership Committees in Seven Territorial Districts of the State

The Illinois State School-Board Association held its fifteenth annual convention October 24 and 25 at Peoria, Ill. Over 150 school-board officials were present and participated in the general and sectional meetings. Four special sections were held; namely, for high schools, elementary schools, rural schools, and for school districts in cities over 30,000. The leaders of the various sectional meetings were as follows: High-School Section, Mr. W. C. Urban, Granite City; Elementary-Schools Section, Mrs. Alfred R. Utt, Glen Ellyn; Rural-Schools Sections, Mr. A. N. Barron, Yorkville; Large-City-Schools Section, Mr. W. B. Reed, Peoria.

The purpose of the Illinois School-Board Association is to assist local school officials in the proper performance of their duties for the improvement of equalized educational opportunity in Illinois. More specifically the purposes of the association are:

1. To develop and maintain a mutual agency for the cooperation of school districts of the state of Illinois, in the practical study of school problems.

2. To promote the application of the best methods in all branches of education by holding at least one convention annually for the discussion of problems in school policy and administration.

3. To gather and circulate information and experience on school activities and affairs.

4. To secure general school legislation which will be beneficial to the public schools, school children, and citizens of the state, and to oppose legislation injurious thereto.

5. To bring about the unification of all branches of public education in the state of Illinois — the elementary schools, the high schools, the normal schools, and the state university.

In the furtherance of these purposes, the recommendations of the president of the Association, Mr. W. C. Urban, Granite City, included the following:

"First: We should interest ourselves in the revision of the school laws, bringing them up to present-day standards, and, in doing so, provide enough revenue so that the public schools of the state can be operated that all children will have equal opportunity to procure an education. This, to me, is the most important question the school-board association has before it today. I would suggest that a strong committee, the members of which will have time to give this matter serious consideration, and, work with other like bodies to accomplish this, be appointed by the incoming president.

"Second: In order to accomplish the above, it necessarily means we must have some contact with the members of the general assembly. The school-board association should have a good strong legislative committee, one which will have some influence with our legislators.

"Every member of the association should meet the legislators of his own district, acquaint them with the objects of this association, and enlist their cooperation in assisting in the passage of such legislation as is fostered by the association.

"Third: As an association, we should take a decided stand on an increase in the distributive fund, and equitable distribution of same.

"In the fourth place, we should increase the membership of the association. This can best be done by ourselves. We must not overlook any opportunity to invite officials of nonmember school boards to join the association. If we keep this matter constantly in mind, the membership of the association cannot fall to grow during the coming years.

"In the fifth place, the affairs of the association should be placed on a sound financial basis. The financial position has in the past been entirely too precarious for effective work. I would urge upon all members to accept the revised schedule of membership dues and support the association whole-heartedly. We can get out of an organization such as ours in proportion as we put into it, and I would particularly warn against the shortsightedness of failing to give hearty support to the association, when we at the same time desire it to grow and accomplish really important things for us.

"The purposes of the association are fundamental to the highest type of local education. Our men of vision and foresight must be kept at the helm of affairs, and our men of action must be given important assignments of accomplishments. I think we all realize when it is pointed out to us the necessity of cooperation. If each school district continues to try to work out its own problems without assistance from others, progress will be halting, slow, and wasteful. We can, however, through the association, each help one another toward the realization of our highest aims of public education in Illinois."

The president also appointed a special committee on district organization for membership purposes. This committee reported as follows:

"That to Section 25 of the constitution be added the following:

W. C. URBAN,
President-Elect, Illinois State School-Board Association,
Granite City, Illinois

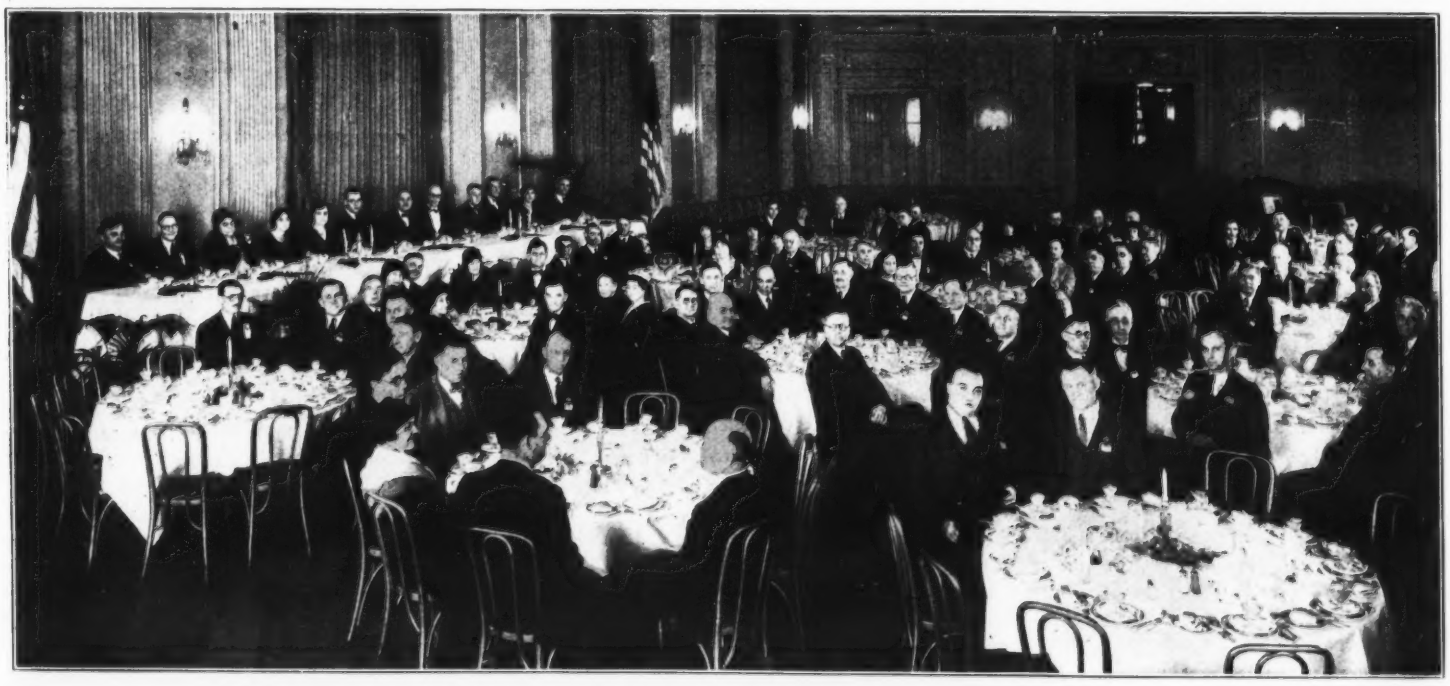
"The state shall be divided into groups of such number and boundaries as shall from time to time be determined by the executive committee. Group chairmen shall be appointed annually by the president to hold office until chairmen are elected by the various group assemblies, except in the case of such groups as have duly elected chairmen. Each group assembly shall have the power to create and select a committee of five or more members, to aid the group chairman in carrying on the work program of the group or district assembly."

Pursuant to the above constitutional amendment, which was adopted, the association expects to hold at least seven district meetings throughout the state during the spring and summer of 1930, to stimulate membership in the various sections of the state, as well as to develop a spirit of cooperation and teamwork among local school officials for the legislative program before the 1931 General Assembly.

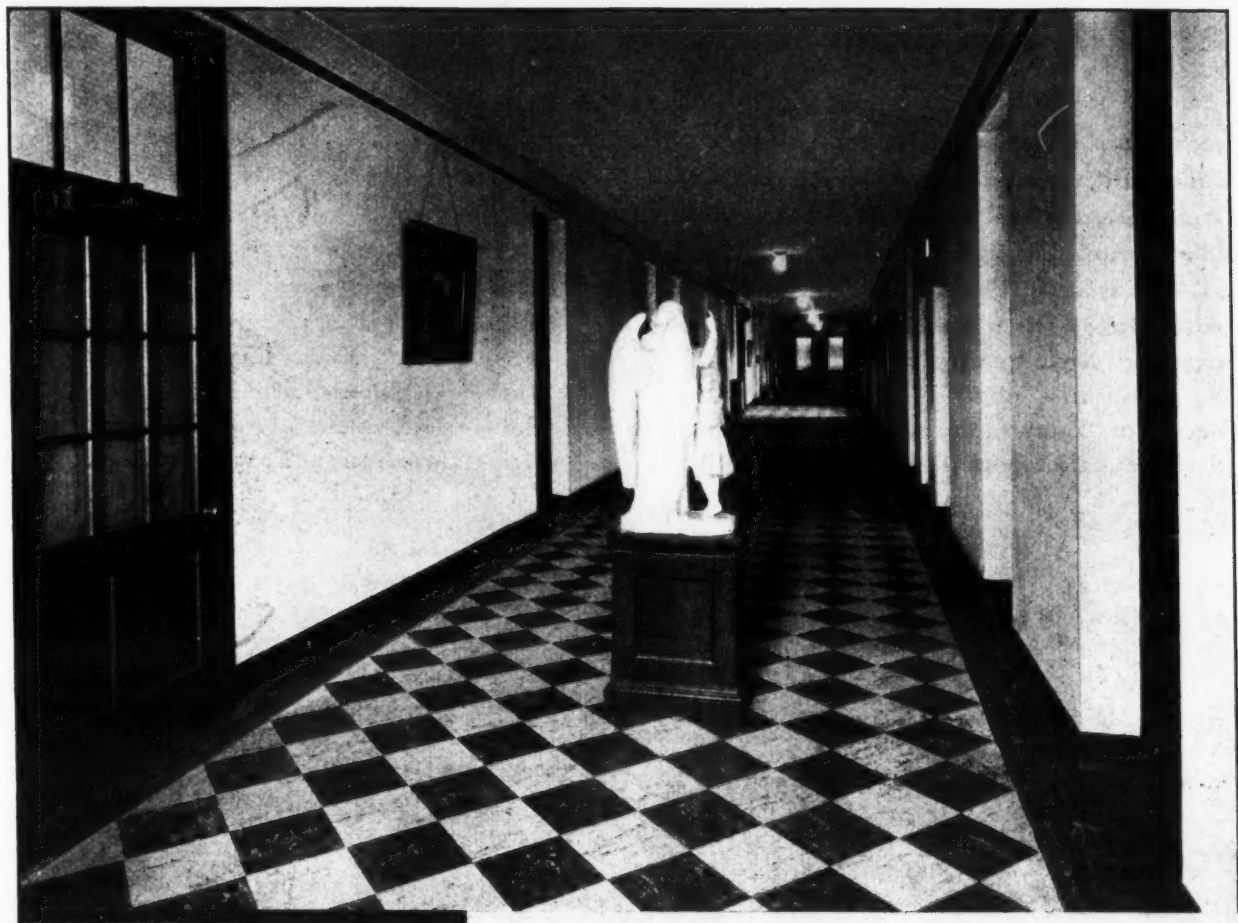
The report from the high-school section included a resolution, which has for its purpose the uncovering of certain alleged unfair practices on the part of the board of control of the Illinois High-School Athletic Association. This athletic association is controlled by high-school principals, and the association officers have refused access to their records to school-board members. Accordingly, the following resolution was passed by the association:

"WHEREAS, it has been represented to the association that unfairness has been shown to various high schools by the Illinois High-School Athletic Association in suspending high schools from the athletic association, and in refusing the

(Concluded on Page 64)



BANQUET OF THE ILLINOIS SCHOOL-BOARD ASSOCIATION HELD AT PEORIA, ILLINOIS, OCTOBER 24, 1929



AT LEFT: Corridor floor of Sealex Treadlite Tile in Fontbonne College for Women, Clayton, Mo. Under the direction of Sisters of St. Joseph.

• • •

BELOW: Exterior view of new buildings of Fontbonne College.

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THESE beautiful new college buildings are equipped with quiet, resilient Bonded Floors. Corridor floors are of Sealex Treadlite Tile, laid tile-by-tile in a pleasing made-to-order pattern. A soft brown tone of Sealex Battleship Linoleum was used in the rooms.

Thanks to the exclusive *Sealex Process* of manufacture, Sealex floors are non-absorbent and easily cleaned, odorless and sanitary. Moderate in first cost, inexpensive to maintain and exceptionally durable, they stand for the last word in intelligent economy.

Only such floorings, laid by a Bonded Floor contractor, could carry our Guaranty Bond insuring years of trouble-free service. Authorized contractors for Bonded Floors are selected, experienced and responsible firms. They know their floorings—and we back their work with a Guaranty Bond!

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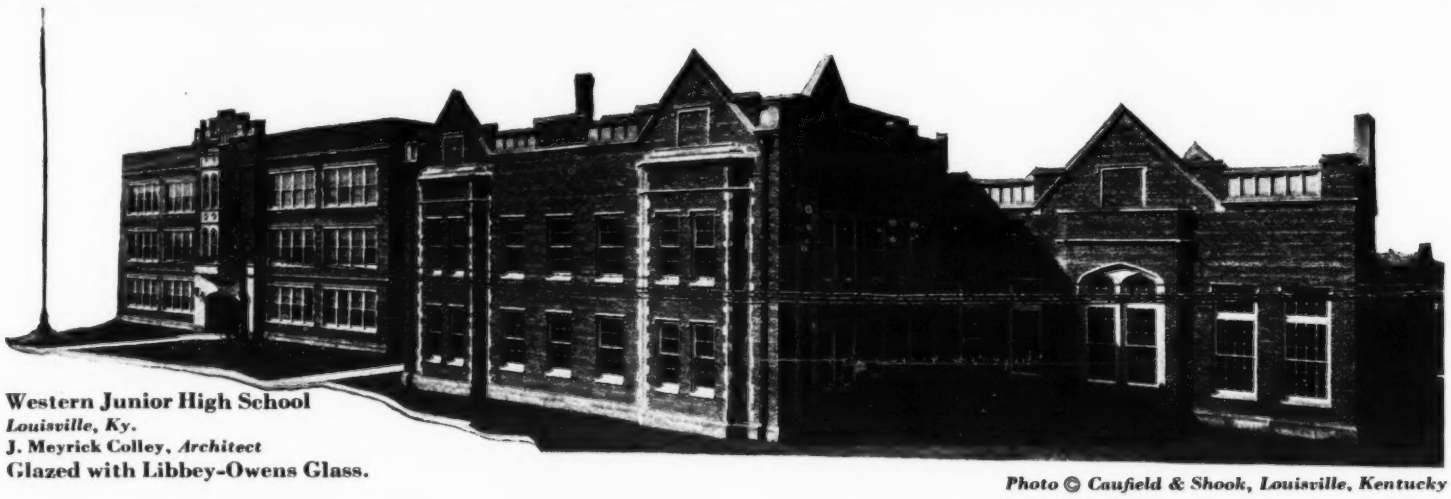


Western Junior High School
Louisville, Ky.
J. Meyrick Colley, *Architect*
Glazed with Libbey-Owens Glass.

Photo © Caufield & Shook, Louisville, Kentucky

LIBBEY-OWENS

FLAT DRAWN CLEAR SHEET GLASS

(Concluded from Page 62)

examination of the association records to school boards,

"IT IS THEREFORE RESOLVED, that a committee of five be appointed by the president of the association, with power to make full and complete investigation of the conduct of athletic activities between the high schools of the state of Illinois, and to report their findings to the executive committee of this association."

This was the second time sectional meetings were held during our association convention, and they were so very successful that it is planned to continue them for future conventions. By dividing the convention up into sectional groups, for at least one-half day, the delegates have an opportunity to discuss specialized problems for which there would not be time if only general sessions were held.

On Thursday evening Dr. David Spence Hill, former president of the University of New Mexico, favored the convention with an inspiring and helpful address "The State and Public Education." Dr. Hill pointed out the present chaotic condition of the school laws, and intimated that it was only through some such organization as the school-board association that these statewide school problems could be tackled and appropriately solved. He reminded us that there is no substitute for intelligence in the government and administration of school affairs, and that it is in our educational institutions that there is the greatest need for the use of intelligence in straightening out our organic structure and governmental relationships.

On Friday morning the entire convention listened for three hours to an address by Mr. George F. Womrath, assistant superintendent of schools of Minneapolis, on "The Business Administration of School Systems." Mr. Womrath is the leading authority in the country on this subject, and his three hours' survey of this large field was not only closely packed with facts and useful information for all those present, but was highly appreciated.

The committee on time and place of the next convention recommended that the next convention be held at Decatur, Ill., and that the dates be decided upon later by the executive committee. The following officers were elected for the coming year:

President, Mr. W. C. Urban, Granite City; vice-president, Mr. Frank J. Petru, Cicero; treasurer, Mr. F. E. Williamson, Urbana; secretary, Mr. A. D. McLarty, Urbana.

CREATIVE LEADERSHIP IN ADMINISTRATION

Analysis of failures among public-school executives indicates two major causes. These are lack of understanding of the sociological implications of the community in which they happen to be working, and lack of control over the fundamental principles underlying public-school organization.

Mr. Arthur B. Moehlman, of the University of Michigan, Ann Arbor, in discussing the subject in the School of Education Bulletin of the University, points out that public education rests upon the will of the people, and that this will is expressed in the state through the legislature in developing the group of statutes known as the school code. Every plan considered and adopted, in the opinion of Mr. Moehlman, must be considered as part of the expressed will of the people.

Commenting on the status of the superintendent as the professional executive of the board of education, Mr. Moehlman writes as follows:

"The superintendent is the professional executive of the board of education. It is his function to develop the technical plan by which the legal policies may effectively be executed. His plan, or means of procedure, to have legality must be approved by the board of education. Upon such approval these means become legally part of the *will* of the people, and are not the property of any individual to be put in effect with extensive use of the pronoun "I." After approval it is the duty of the executive to place the plan into execution and to report back to the board of education upon the efficiency of execution. In making this report the professional executive interprets the data for the benefit of the board. This interpretation may be considered as one of the phases of creative leadership essential to the superintendency. Throughout this process the superintendent has acted as agent and adviser to the board. The board has acted as a legislative body in considering, weighing, and approving both policy and means of procedure. Neither the policy nor the means of procedure is an individual creation. In the first place, many individuals took part in their development. In the second place, they have no legality until incorporated in the legal proceedings of the board of education. Their legality depends upon adoption in accordance with the general law. Consequently, neither policies nor means can rightfully be credited to the superintendent as his individual conception and his individual property. They belong to the people of the community and remain in force as the legal expression of their *will* until further evidence requires change.

"The implication is clear. The socially intelligent superintendent will consider policies and means as a part of the community *will*. He will stop thinking and talking about them as his individual contribution and achievement. He will suppress the "I" feeling for personal publicity and develop the "we" feeling for intelligent administration and for safety. By so doing he clearly indicates that changes in school policy are dependent upon the community and its representatives, and not upon the superintendent. He ceases to be an individual target for social disapproval.

"The highest type of creative leadership is that which influences through direct education in terms of basic principles and which leaves to the file leader the flag and the drum of obvious publicity."

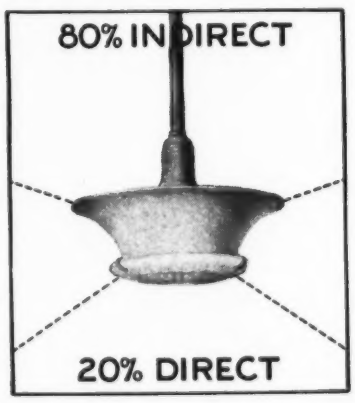
His *Eyes*
His *Mind*
His *Future*

depend largely upon light....

HE IS a *good* boy and at least normally bright. There seems to be no reason why he should not succeed in school and in life.

Yet lines of strain are already beginning to form about his young eyes—lines in which his future can be read discouragingly. For eyestrain causes nerve strain and fatigue. It dulls childrens' minds and often makes them fail when they would otherwise "pass", with their clear-visioned classmates.

Twelve per cent of the children in your schools have defective vision, according to the recent report of a joint committee of the National Education Association and American Medical Association. Good school lighting helps to give these children an equal chance with the more fortunate Bad school lighting handicaps them still more, and costs their schools heavily in unnecessary and expensive student retardation



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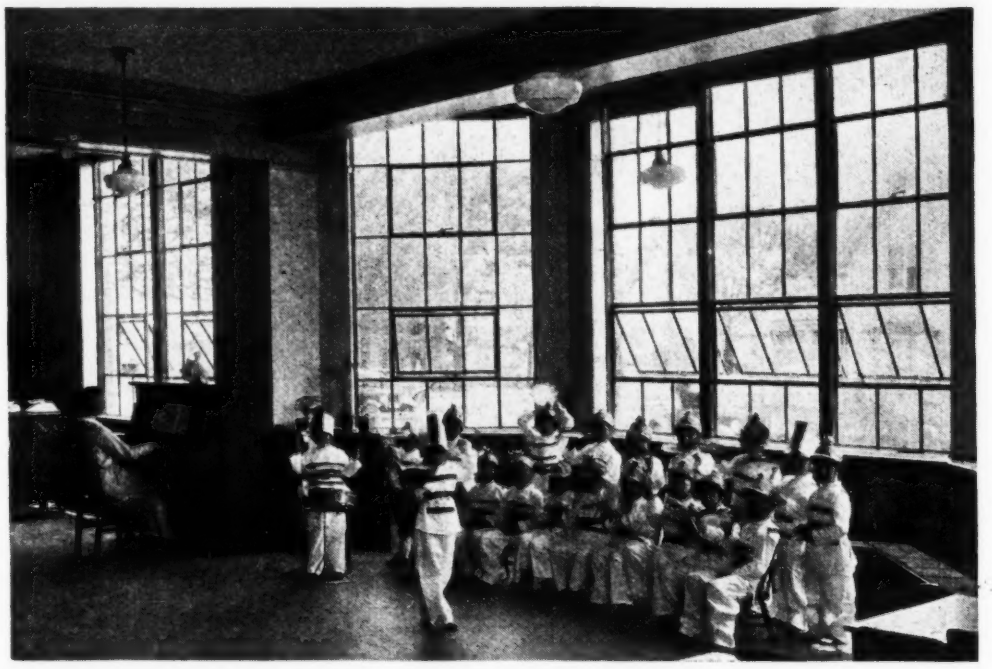
South Lake High School, St. Clair Shores, Mich. *Architect:* Geo. J. Haas, Detroit. *Contractor:* Roger F. Hill, Detroit.



Here's *Fenestra* in action

If you could visit a modern schoolroom such as this you could see Fenestra School Windows in action—you could see for yourself how these sturdy windows of steel flood the schoolroom with light, how they create and maintain an ideal school atmosphere.

Here you could see how teachers can control the ventilation, easily bring in the fresh air through windows that open without sticking or warping and just as easily shut out the storms. Such an inspection would show how Fenestra School Windows are conveniently shaded, washed from the inside, and their small panes can be economically replaced when broken. Their architectural beauty, as well as their practical advantages, would appeal to you.

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Fenestra
school windows

Teachers' Resignations—How Marion, Iowa, is Attempting to Solve the Problem

C. B. Vernon, Marion, Iowa

One of the trying situations that a superintendent and school board have to meet in a small-city school system is that of teachers' resignations. The letters come at all times of the year, but more frequently between the time of signing contracts, which with us is about April 1, and the opening of school in the fall.

Some teachers succeed, after signing, in turning up better jobs; others decide after several weeks of reflection during the summer vacation that the time has come for them to go on with graduate work for a higher degree; a few get married—but they are getting fewer each year. Of course, these latter usually know months ahead that they are to be married, but they sign their contracts anyway, feeling that to be the safer course. Just before school opens they send in their resignations and take the leap—for better or worse.

The fact that teachers are committing a breach of contract in resigning and expose themselves to an action for damages, comes in for little serious consideration, even by the most conscientious. I have never known a teacher who would not break her contract—more delicately styled, "tender her resignation"—if she received an offer of "just the position she had always wanted." In my personal experience, I have never known a board to refuse to accept such a resignation. A teacher's contract usually binds only one of the two contracting parties—the school district.

The Superintendent's Attitude

A remark that commonly passes among teachers when contract-signing time is at hand in the spring is, "Oh, well, I guess I'll sign; I haven't heard from Bigger City yet, but maybe I won't. I had better sign, and then resign if I get the new job." There is much worldly wisdom in this philosophy. A teacher without a contract somewhere seems to lose much of her appeal to employing superintendents. They cannot help feeling that all was not well in the former position. The candidate who has refused to sign her contract in order to be free to look for something better, is a rare bird indeed.

Teachers who resign to accept a better position frequently say that the example has been set for them by their principals and superintendents. They can see no wrong in doing what their superiors do. We must admit the human appeal of their argument. Can you think of one superintendency in ten that has been filled in recent years by a man who was not under contract in some city either as a teacher, or principal, or superintendent? Do you actually know of one superintendency that has been accepted by a man who did not directly or indirectly make the first approach? Undoubtedly superintendents have lent an attentive ear to Samuel Johnson's advice, "He is no wise man that will quit a certainty for an uncertainty."

A practice which is so universal among a fairly respectable class of people must have some virtue; it cannot be all bad. Is it always wrong for a teacher to break her contract for a better job? I think not. Every superintendent is looking for up-and-coming teachers. The truth is, if I had opportunity to employ a teacher whom I knew would be with us for the rest of her professional life, that fact alone would prevent her election. Certainly superintendents in the smaller cities want teachers who are able to climb into higher-salaried and more responsible jobs.

What of the Ambitious Teacher?

Personally, I prefer a Phi Beta Kappa with good personality and no teaching experience, to a person of average ability with perhaps five years of experience in a smaller school system. A good teacher must have ability and experience; we can supply the latter but not the former. Now, when I get my capable, inexperienced teacher, I do not expect to keep her always. She must be ambitious. I want her to make a record that will attract the attention of our more potent and larger neighbors. If she does just that, and her big chance comes, say in the middle of July, should she reject it and refuse on moral grounds to break her contract?

The usual attitude of the school board in accepting such a resignation is disclosed in remarks passed around the table, familiar to every superintendent: "Better let her go, she will be discontented here now anyhow." "She has given good service and deserves the promotion." "There are other fish in the sea." "I do not mind her going, but the market is pretty well picked over by this time, and replacing her will be difficult."

Is it not true that the last remark expresses about the only actual damage sustained by the school district in such a breach of contract by the teacher? To replace her will be difficult; it will be time-consuming and expensive. There will be telephone calls, telegrams, traveling expenses of unsuccessful candidates called in for personal

(Concluded on Page 68)

DELEGATING AUTHORITY

Modern public administration seems to dictate to administrators a policy of generous delegation of power to the technically trained men who stand at the heads of the departments. An engineer who is the chief administrator will have difficulty in appreciating the conditions which affect a police department; and a business man ought not to make engineering decisions. An administrator who fails to delegate generously will soon find himself physically and nervously a victim of the heavy burden of city administration.

—Leonard D. White.

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The Williams Pivot Sash Company
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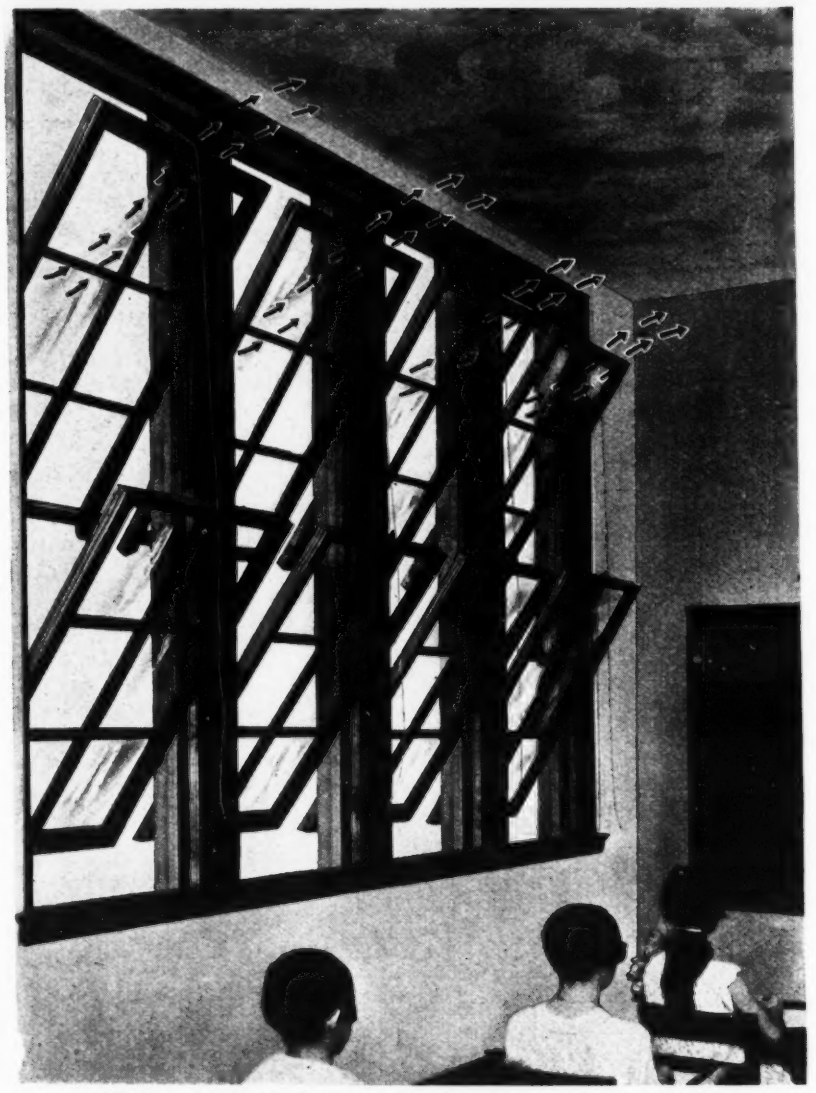
WINDOW EQUIPMENT
Clean Your Windows from the Inside



Windows can be tilted more or less than shown in the photograph, giving absolute control of ventilation.

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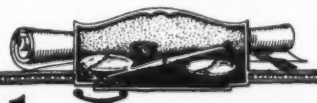
interviews, traveling expenses of the superintendent in going on a teacher hunt; stenographer's time, and a number of items unforseen at the time of resignation. However, if the bushes are well beaten, a fine prospect for the vacancy is usually found. Thus two people are benefited; the teacher who received the promotion and resigned, and the one who is brought in to fill the vacancy. The first leaves the school system with gratitude for everyone and advertises the town and the school board as only a teacher can. The newcomer feels the same way. The board's reaction over the matter is good. The remainder of the teaching corps, who perchance hope that their time may also come, are glad to know that a fellow teacher has received human, sympathetic treatment.

A Practical Solution

Everything seems to work out splendidly and fairly except for the matter of expense to which the district has been put in finding a successor. Many times I have had teachers volunteer to bear this expense. They are glad to pay for their good fortune and reimburse the board for any inconvenience or injury which their employer, the district, may have sustained.

In order to bring the whole question of teacher resignations to an open understanding on all sides, the Marion, Iowa, school board has passed the following resolution: Hereafter, resignations of teachers will be accepted if accompanied by a payment of $35 in lieu of expenses likely to be incurred in the selection and employment of a successor.



School-Law Notes

School-District Government

A school director cannot be removed for neglect of duty or misconduct committed during a former term (Pa. school code of 1911, §§217, 218, Pa. statutes of 1920, §§4699, 4700).—In re Fudula, 147 Atlantic reporter, 67, Pa.

A statute disqualifying school directors removed from office from holding office for five years applies only to actual removal, not to misconduct justifying removal (Pa. school code of 1911, §218, Pa. statutes of 1920, §4700).—In re Fudula, 147 Atlantic reporter, 67, Pa.

School-District Property

The board of education of the city of Buffalo has no power to purchase school sites but only to recommend the purchase to the city council.—Hughes v. City of Buffalo, 236 N. Y. S. 255, 134 Miscellaneous reporter, 598, N. Y. Sup.

A city council's resolution for the purchase of land for a school never became valid, where it was rescinded within thirty days required to elapse before it became effective.—Hughes v. City of Buffalo, 236 N. Y. S. 255, 134 Miscellaneous reporter, 598, N. Y. Sup.

A bidder required to furnish the bond for constructing a school building is held obligated for the premium.—Inhabitants of City of Biddeford v. Benoit, 147 Atlantic reporter, 151, Me.

A contract for constructing a school, requiring the bidder to give a bond, though not expressly referring to the premium, impliedly required the bidder to pay for what he was required to furnish.—Inhabitants of City of Biddeford v. Benoit, 147 Atlantic reporter, 151, Me.

The payment of a premium on a bond required of the contractor constructing a school is held not an obligation under the bond and contract, but a consequence thereof.—City of Biddeford v. Benoit, 147 Atlantic reporter, 151, Me.

An architect was not authorized to determine who should pay a premium on a contractor's bond under a contract with the city for constructing a school.—City of Biddeford v. Benoit, 147 Atlantic reporter, 151, Me.

A city or its committees should not relieve the contractor of an obligation for the premium on the bond, without the consideration of the after delivery of the bond and the execution of the contract.—City of Biddeford v. Benoit, 147 Atlantic reporter, 151, Me.

A percentage authorized to be retained under a school construction contract was a trust fund for the benefit of the creditors, collectible claims, and surety.—Stubbs Electric Company v. Longview School Dist. No. 112, Cowlitz county, 279, Pacific reporter, 86, Wash.

The subcontractors and materialmen acquired no lien on the funds due a school-building contractor because of the latter's bankruptcy or the city's payment thereof into court.—Freeny v. Bauernschmidt, 33 F. (2nd) 709, reversing a decree (D. C.) In re Mason-Curley-Brady, Inc., 28 F (2nd), 981, U. S. C. C. A., Md.

The existence of the subcontractors and materialmens' liens on a fund withheld from a school-building contractor is a matter of local law.—Freeny v. Bauernschmidt, 33 F (2nd), 709, reversing a decree (D. C.) In re Mason-Curley-Brady, Inc., 28 F (2nd), 981, U. S. C. C. A., Md.

A school-building contract is held not to give the subcontractors and materialmen a lien on funds withheld from the contractor.—Freeny v. Bauernschmidt, 33 F (2nd), 709, reversing a decree (D. C.) In re Mason-Curley-Brady, Inc., 28 F (2nd), 981, U. S. C. C. A., Md.

The court is held not authorized to require a school-building contractor to consent to the payment of funds withheld by the city to the subcontractors.—Freeny v. Bauernschmidt, 33 F (2nd), 709, reversing a decree (D. C.) In re Mason-Curley-Brady, Inc., 28 F (2nd), 981, U. S. C. C. A., Md.

One furnishing school furniture is held entitled to recover from a town, though the contractor abandoned the building contract and the town exhausted the building funds in completing the contract, Conn. puclic acts of 1925, c. 170).—Pelton & King v. Town of Bethlehem, 147 Atlantic reporter, 144, Conn.

School-District Taxation

A city tax for school-building purposes is held unwarranted, under a charter requiring the board of education to submit to the council an estimate of amounts required from the city for adequate "support" of the schools (Calif. pol. code, §§1755, 1830, 1838, 1839, 1840).—Whitmore v. Brown, 279, Pacific reporter, 447, Calif.

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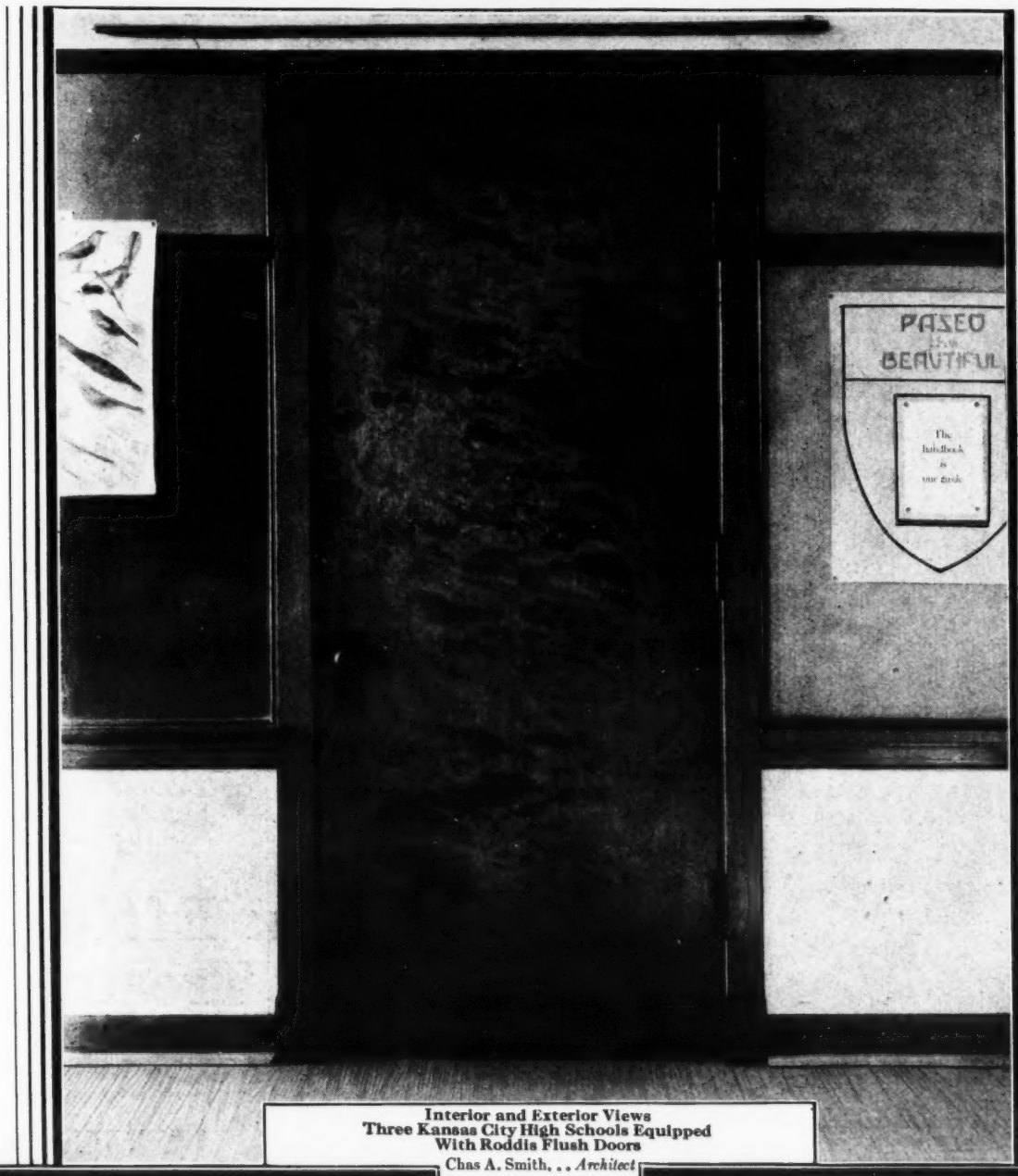
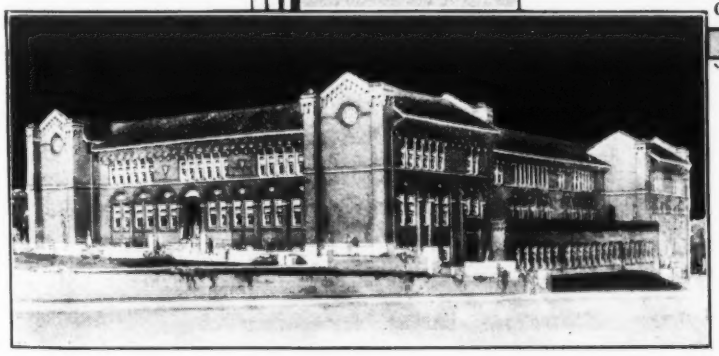
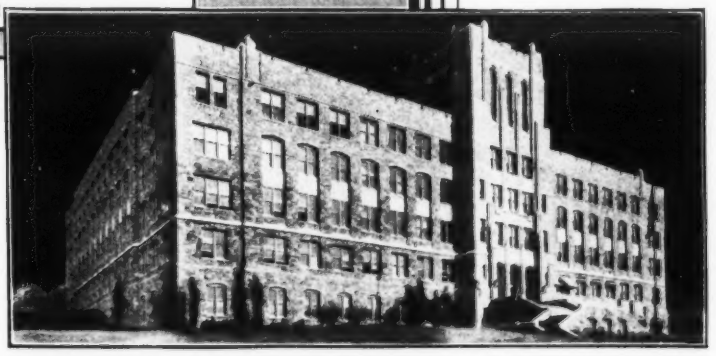


Interior and Exterior Views
Three Kansas City High Schools Equipped
With Roddis Flush Doors
Chas A. Smith, . . *Architect*



Trade Mark

This Red-White-Blue Dowel Trade Mark is on the edge of the Roddis Flush Door. It is the Roddis mark of identity and quality.



RODDIS DOOR LEADERSHIP

The great variety of school buildings in which Roddis Flush Doors are installed, and the great variety of school building door designs furnished by Roddis, are two sufficiently significant references to denote Roddis leadership. The completely solid construction of Roddis Flush Doors, their fire—and sound-resisting quality and permanently enduring value make them the most practical, serviceable and economical. Write now for the interestingly illustrated Roddis Flush Door Catalog, for further convincing references.

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You have no application problem when you specify Par-Lock or Dens-tect—no risk of haphazard contracting, no fear about the uniformity either of material and workmanship—no uncertainty about the applier's responsibility.

Herewith we introduce a new applying organization—The Par-Lock Appliers of Cincinnati—thoroughly qualified and equipped with special Par-Lock apparatus, ready to serve a large territory adjacent to the Queen City.

Par-Lock
PLASTER KEY

consists of gun applied protective coatings of specially blended asphalts applied at normal temperatures, in which is embedded a gun applied grit that holds the plaster.

Dens-tect, a maximum specification for the interior of exterior walls differs from Par-Lock in that a fine aggregate is combined with the asphalt at the nozzle. It is built out to a tangible thickness, filling all of the small voids and affording good plaster holding qualities.

Address" Par-Lock Applier of_____" (naming the nearest applying center, at the address given,) to be sure of expert, interested service in pre-plastering treatments.

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CLEVELAND,
218 Hunkin-Conkey Bldg.
COLUMBUS,
751 South Cassingham Rd.
DETROIT,
2457 First National Bldg.
KANSAS CITY, MO.
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434 Builders Exchange
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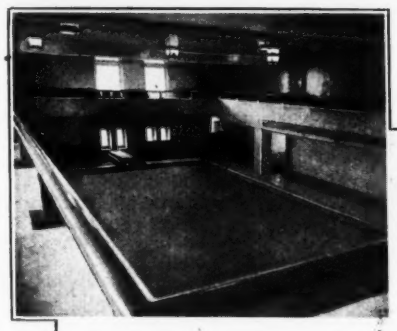
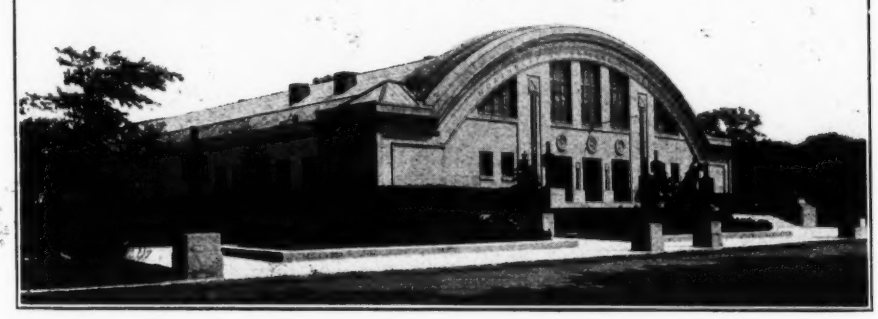
TRENTON,
339 Broad St. Bank Bldg.
YOUNGSTOWN,
503 City Bank Building
WILKES-BARRE, PA.
904 Second Nat'l Bank Building



Left—Swimming Pool Equipped with W & T Chlorinator

Below—Patten Gymnasium Northwestern University Evanston, Illinois



PUBLIC HEALTH STANDARDS

for Swimming Pools can always be met by

Chlorination

Public Health standards for swimming pools are predicated on maintaining the purity of the pool water at practically drinking water quality—regardless of the bathing load. In setting their standards for swimming pools the American Public Health Association and the Conference of State Sanitary Engineers give strong endorsement to chlorination, because chlorination carries a residual sterilizing effect into the pool—where protection is important.

That is why in the colleges and universities of America where swimming pool sanitation is under the most rigid supervision chlorination is invariably specified for sterilizing the pool water. W & T equipment is used for sterilizing over 2,000 swimming pools.

"Swim in Drinking Water"

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SP-5-a

(Concluded from Page 68)

Claims Against School Districts

In a manual-training student's personal injury action, allegations of notice and failure to remedy a dangerous condition of the saw after a notice is held sufficient (Calif. general laws, act 5619, §2).—Ahern v. Livermore Union High-School Dist. of Alameda county, 279 Pacific reporter, 1032, Calif. App.

Instruction that, to recover from a school district for a student's injury, a dangerous condition, a notice to a defendant, and a failure to remedy within a reasonable time must be shown, is held proper, Calif. general laws, act 5619; Calif. pol. code, §1623, as amended by the statutes of 1923. p. 298).—Ahern v. Livermore Union High-School Dist. of Alameda county, 279 Pacific report, 1032, Calif. App.

Teachers

A school board has no arbitrary authority to assign a teacher to an insanitary school, or where pupils are afflicted with contagious disease, nor to some useless task.—Dutart v. Woodward, 279 Pacific reporter, 493, Calif. App.

A school board in classifying and assigning teachers must act in good faith and in accordance with the law (Calif. teachers' tenure act, pol. code, §1609, as amended by the statutes of 1927, p. 1913). --Dutart v. Woodward, 279 Pacific reporter, 493, Calif. App.

A permanent teacher is entitled to active employment (Calif. pol. code, §1609 (e).—Dutart v. Woodward, 279 Pacific reporter, 493, Calif. App.

The marriage of a permanent teacher is held not to warrant a school board in transferring her to a tubercular institution in another county in which elementary classes were maintained (Calif. pol. code, §1609 (e), 1618b as amended by the statutes of 1927, p. 261).—Dutart v. Woodward, 279 Pacific reporter, 493, Calif. App.

A school board is held not authorized to assign a permanent teacher to a tubercular sanitarium in another county without her consent (Calif. pol. code, §§1609b, 1609e, 1618b).—Dutart v. Woodward, 279, Pacific reporter, 493, Calif. App.

A school board may not deprive a teacher of her status as a permanent teacher for a refusal to comply with unreasonable or dangerous assignments (Calif. pol. code, 1609e).—Dutart v. Woodward, 279, Pacific reporter, 493, Calif. App.

LAW AND LEGISLATION

—The Wisconsin Department of Public Instruction has recently ruled that it is entirely within the power of the electors of a school district to designate a site upon which to erect a building at any time after the loan has been made. The right of the electors is not affected, because the building loan money has been secured.

The Department has also ruled that school officers are forbidden by statute from creating an indebtedness upon the school district to be paid in the future. This means that a school board cannot legally give orders for school equipment such as seats, blackboards, etc., unless funds to meet the payment are available.

—School-district officials may regulate dances attended by the students if dances are purely school functions, has been ruled by the attorney general of Idaho. In the letter transmitting the same opinion, the attorney general answered a question of school district liability for medical aid to students injured while participating in school athletics. It was held in the opinion that school districts in Idaho are not liable for medical services for students injured while participating in school athletics.

—School directors and boards of education are not liable for injuries sustained by members of schoolboy patrols, under a recent decision of Attorney General O. E. Carlstrom of Illinois. It was also held that school boards are not liable for acts of schoolboy patrols who assist in directing the traffic around school buildings.

—In Wisconsin a new apportionment law has gone into effect. The amount to be distributed for the ensuing year is about six million dollars. The change in the law will prevent school districts getting more aid than they spend, with one example cited where a district closed its schoolhouse and transported its children to another district and made a profit of $700. Under the law these districts are given aid for transportation and tuition of children. But the district mentioned spent $500 and received a total aid of $1,200, leaving it with a profit of $700. As now amended no district can receive more in aid than the cost of transportation and tuition even though under the ordinary measurements set up in the law it would be entitled to more. This change will somewhat offset the increase due to the larger number of teachers.

NEW RULES & REGULATIONS

RULES GOVERNING ATTENDANCE AT PROFESSIONAL MEETINGS

The school board of Berkeley, Calif., has adopted a recommendation of Supt. L. W. Smith, providing for a definite schedule for controlling the attendance of members of the school administrative staff at professional meetings of educators, and for visiting institutions where significant innovations are in operation. The recommendation followed a study of the subject and conformed with a request made several months ago by the board of education for such a schedule. The following recommendations have been adopted to govern the procedure:

"A. It is recommended that in addition to the amounts made necessary by law for attendance at superintendents' and principals' meetings, there be set aside in the budget annually the sum of $1,500 for traveling, and that the superintendent be assigned the authority to administer this sum, to approve projects for travel, and to authorize the necessary expenses for the same.

"B. In carrying out the above regulation, the following general principles will apply:

"1. That it be recognized as the function of the superintendent of schools to keep in touch with national organizations and movements of national significance by attendance at national meetings and, so far as practicable, to visit outstanding examples of progressive educational procedure. It will be within his province to delegate other members of the executive staff to participate in this, insofar as his own duties prevent him from doing so.

"2. The supervisory staff will be expected to keep in touch with the activities of regional educational organizations in their various departments, attend their meetings, and visit on occasion outstanding examples of progressive educational procedure. By 'regional' it is intended to mean in general the Pacific Coast area, but in particular it is expected that most of the meetings attended and visits made will be within the state of California. On account of the large number involved, it is expected that the hotel expenses of the supervisors

AWNING TYPE WINDOWS EXCEL FOR SCHOOLS

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are hygienically correct. Specially adaptable for the modern needs of school buildings. Recommended and in wide use to meet lighting and ventilating requirements. Sturdy, attractive and economical.

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concerned will be paid and that the supervisor will provide his own transportation.

"3. It is understood that no expenses of executives or supervisors will be paid when meetings occur in the bay area or when it is proposed to visit an example of educational advance in another school in this area.

"4. Special provisions for professional growth of teachers are provided, in addition to those which they are expected to undertake on their own account, as follows:

"*a*) The board of education, as heretofore, will appropriate a sum of money for institute purposes;

"*b*) A sum of money will also be provided for special lectures to be delivered to the teaching body from time to time.

"*c*) It is expected that teachers will benefit from the administrative and supervisory visits authorized above.

"*d*) On account of the prohibitive cost, it is not possible to inaugurate a system of visits with expenses paid to educational meetings and the demonstrations of teaching in other cities. The superintendent is authorized to approve the attendance of a teacher at an educational convention or to visit schools in another city. In such cases he is authorized to employ a substitute for the teacher absent without cost to the teacher who is on visit. Such authorizations must necessarily be held within strict limits, in view of the service that must be rendered from day to day to children."

As the first step in organizing a regular "maintenance staff," several appointments were approved by the board upon the recommendation of Frank Thomas, superintendent of buildings and grounds. Appointments included that of foreman carpenter, foreman plumber, foreman electrician, and foreman gardener.

RULES GOVERNING THE ADMINISTRATION OF THE MADISON SCHOOLS

With the opening of the schools for the school year 1929–30, the school board of Madison, Wis., has placed a new set of rules in operation. The rules governing the powers and duties of the superintendent in the administration of the schools are brief but inclusive and designate the superintendent as actual chief executive of the schools. The rules read as follows:

Section 1. *a*) The superintendent of schools has power to recommend to the board appointments, promotions, and increases in salary for all supervisors, principals, teachers, and employees. All supervisors, principals, teachers, and employees shall be elected by the board only upon recommendation. The qualifications of new employees shall be reported by the superintendent to the school board.

b) The superintendent shall fill temporary vacancies in all positions, subject to his jurisdiction for recommendations, at the salaries not to exceed those fixed by the board for such positions, and shall report all such temporary appointments to the board for its approval at the next meeting.

c) The superintendent shall transfer principals, teachers, and employees for the good of the school system, and shall report such transfers to the board for its approval.

d) The superintendent shall file his annual budget estimates on forms prescribed by the board, with supporting data, as called for in the rules, with the secretary of the board, on or before September 20 of each year.

e) The superintendent shall require from the supervisors, principals, and other employees, and from the secretary of the board, all reports and data necessary for making the budget estimates and for making other reports which he may deem necessary.

f) The superintendent shall recommend to the board all changes in textbooks which are purchased by the pupils in the schools.

g) The superintendent shall direct the purchase of all textbooks and reference books for the school libraries, provided for in the budget as adopted by the board.

h) The superintendent shall recommend to the board all changes in the course of study.

i) The superintendent shall send to the secretary and to members of the board, prior to any regular or special meeting, a brief outline of the matters which he wishes the board to consider at the next meeting.

j) The superintendent shall be generally responsible to the board for the efficient operation of the schools.

RULES GOVERNING HIGH-SCHOOL CLASSIFICATION AND TUITION FOR TEXAS SCHOOLS

The state education department of Texas has recently adopted a new set of rules governing high-school classification and payment of tuition under the new law passed by the state legislature.

Under the rules, pupils who are beneficiaries of the high-school tuition law, and who are eligible for transfer should be transferred by the county superintendent upon application of their parents or guardian, and the high school attended must credit them with the state and county funds transferred. Such pupils will be permitted to attend free until the available state and county funds of the receiving district are exhausted.

It is required that high schools receive all pupils transferred into the district for high-school purposes, and give them the benefit of the term to which they are entitled before any tuition charges are made. They must receive all nontransferable pupils of free school age, who are duly certified from districts levying and collecting a tax of at least fifty cents on the one hundred dollars valuation. Districts collecting less than a fifty cent tax may pay the tuition of resident pupils within the free school age, 7 to 21 years, for whom high-school training is not offered, but such payment will not make the districts eligible for reimbursement by the state.

No tuition charge may be made on account of a pupil absent for ten days, and no deduction need be made for an absence of fewer than ten consecutive days.

The rate of tuition that may be charged beneficiaries of the tuition law is the actual cost of instruction in the high school attended, based upon the average monthly enrollment in high school, and exclusive of all other current or fixed charges, not to exceed $7.50 per month, which is the maximum rate of tuition.

The tuition rate is agreed upon by the high-school board and the county board, but in the event of a disagreement, it is fixed by the state superintendent, subject to an appeal to the state board of education.

NEW RULES GOVERNING THE APPOINTMENT OF TEACHERS AT HARVEY, ILLINOIS

Upon the recommendation of Supt. F. L. Miller, the school board of Harvey, Ill., has adopted rules governing the appointment of teachers. Under the rules, new applicants for teaching positions must be graduates of a state normal school or university, and in addition must have had at least one year of successful experience in an outside school system.

All teachers who attend a six weeks' summer school at the end of the school year 1929–30, and who complete one major or two minors, will receive a bonus of $50. In lieu of summer school, teachers

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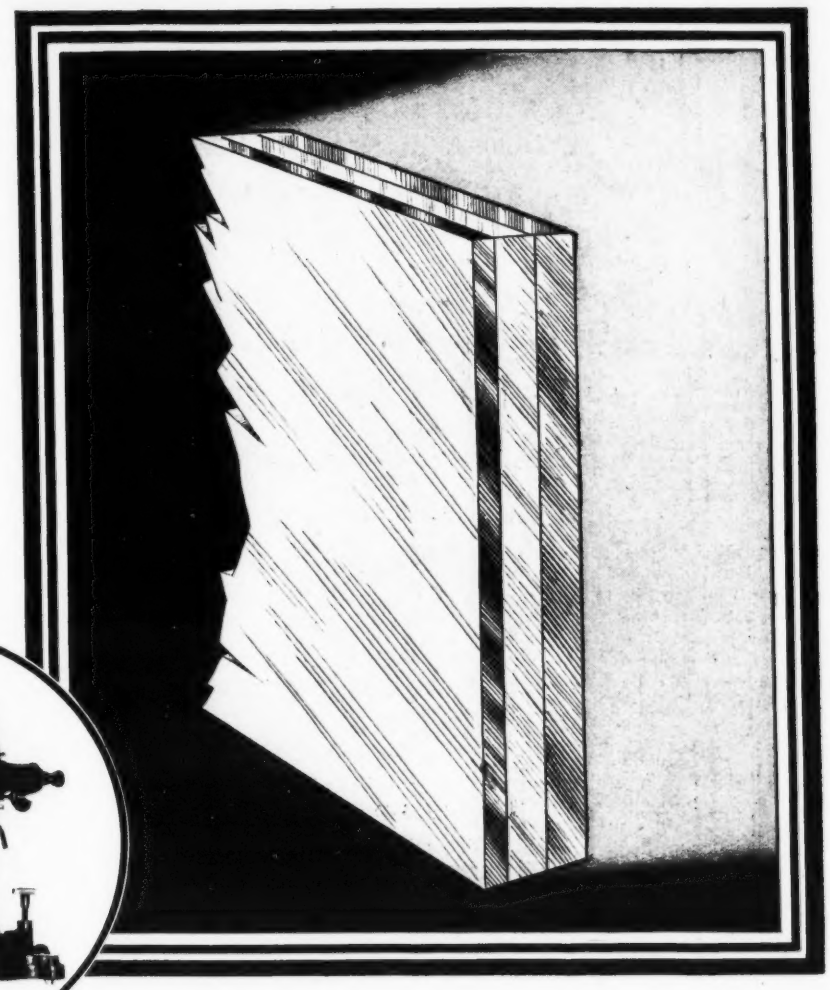
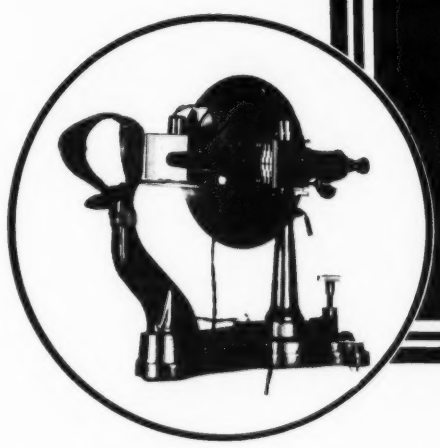
Unusual Test Proves the Superiority of CELESTIALITE

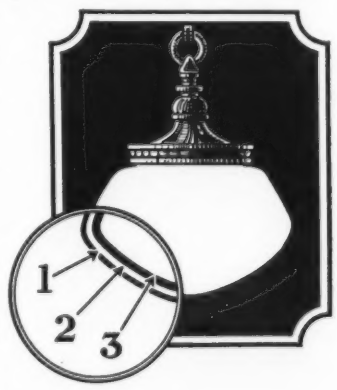




THE General Optical Company of Mount Vernon, N. Y., manufacturers of ophthalmological instruments, reports an interesting test of Celestialite glass that not only brings out a new use for it, but proves its superiority over ordinary glass for all general lighting purposes.

The Ophthalmometer, illustrated above, is a device for measuring the corneal curvature of the human eye, and for determining the degree of astigmatism. These measurements are obtained by means of the images cast on the eye by two boxes of different design, seen at the sides of the machine, and illuminated by fifteen-watt electric lamps.

Hitherto it has been the practice of the General Optical Company to use opal glass in front of these lamps to diffuse the light and to get a clear image on the cornea. But recent experiments and photometric tests made at the company's laboratories have disclosed the fact that a diffusing screen made of Celestialite glass enabled them, with the same candle power lamps, to make the delicate readings twice as well. The improvement in the quality of the light is so marked that it is apparent even to an inexperienced observer.



Celestialite is a scientifically constructed glass that is made in three layers: (1) of crystal clear transparency — for body and strength, (2) a layer of white glass — to diffuse the rays and soften the light, (3) a layer of blue glass — to whiten, clarify and perfect the light.

The experience of the General Optical Company with Celestialite illustrates more clearly than anything else the superiority of Celestialite to ordinary lighting glass. It illustrates why Celestialite has become the standard lighting equipment in many leading laboratories, including the recently constructed Physics Building of Columbia University.

Schools, hospitals, retail establishments, offices, factories — in all institutions where lighting is a paramount consideration, Celestialite is the standard lighting equipment, since it alone is truly "Next to Daylight."

Gleason-Tiebout Glass Company
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SEND THIS COUPON NOW

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Kindly send me free copy of your booklet "Out of the Darkness," and fragment of CELESTIALITE showing its three layer construction.

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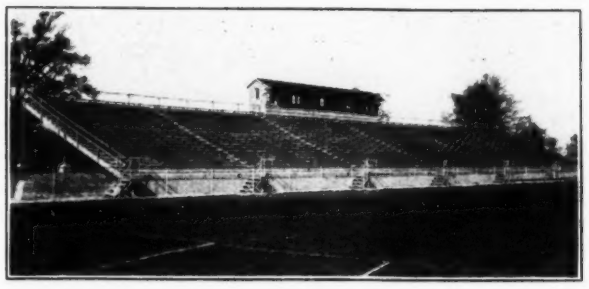
What a record season !



Here pictured is a Pittsburgh-Des Moines all-steel grandstand built for the Miami University at Oxford, Ohio. Seating capacity 2,880 persons. It is the second of two all-steel grandstands erected for the University.

Pittsburgh-Des Moines all-steel grandstands furnish a maximum seating capacity at a minimum cost. Safe, comfortable and up-to-date seating facilities are inducements that result in record crowds.

The greatest of the athletic seasons has come to a close and many colleges and schools with athletic fields equipped with Pittsburgh-Des Moines grandstands are saying "What a record season!"

The cost? Our deferred payment plan takes care of that. A Pittsburgh-Des Moines grandstand will earn its own cost.

Further information concerning the Pittsburgh-Des Moines all-steel grandstand will be furnished you upon request. Ask about the deferred payment plan. No obligation for any information requested.

Pittsburgh-Des Moines Steel Company

89 Neville Island, Pittsburgh, Pennsylvania
991 Tuttle Street, Des Moines, Iowa
693 Hudson Terminal Bldg., New York City

(Concluded from Page 72)

may take equivalent university work during the school year, or do special extracurricular work under the direction of a principal, or spend a year in travel approved by the salary committee. Any teacher who carries on two of the activities listed will receive a flat increase of $10 per month.

RULES FOR SCHOOL PURCHASES

—Providence, R. I. Under the rules of the school board, all expenditures for various sums for school purposes are made in accordance with the regulations of the board and the following provisions:

Books approved by the committee may be purchased by the purchasing agent upon receipt of written orders approved by the superintendent.

School supplies and janitorial supplies for general use in the schools must be purchased by the purchasing agent, upon receipt of written order approved by the superintendent. The purchase of unusual articles, or unusual quantities, or of any single article costing more than $250, requires the approval of the school board.

Orders for deliveries of fuel under existing contracts may be made by the purchasing agent upon receipt of written order approved by the assistant superintendent in charge of buildings and grounds.

Lots of furniture costing less than $250 may be purchased by the purchasing agent upon receipt of written orders approved by the superintendent, but the purchase of lots of furniture costing more than $250 requires the approval of the school board.

The commissioner of public buildings will undertake any particular alteration, the estimated cost of which shall not exceed $250, and any repairs upon the receipt of a written order approved by the superintendent. Any particular alteration costing more than $250 must be undertaken only with the approval of the school board.

NEW RULES GOVERNING THE USE OF SCHOOL BUILDINGS

The school board of Comstock Park, Mich., has adopted a set of rules to govern the wider use of the school property. The rules were made up from lists of rules adopted by some of the larger cities of the country and were modified to suit the particular local needs. The rules which are brief, but complete in scope, are as follows:

1. Written application for the use of the school plant must be made to the superintendent on forms provided for that purpose. Buildings will be opened only on authority conveyed by permits so applied for.

2. No applications shall be received from minors. Organizations of minors wishing to use school properties must be in charge of reputable citizens who will assume responsibility of them.

3. Application must be made at least three days before the date of the proposed use of the properties.

4. The application must be signed by two officers, or representatives, of the organization, or group, desiring to use the school properties.

5. A permit to use the school properties may be revoked at any time without notice.

6. No single permit shall be granted to cover more than one date.

7. The superintendent shall have authority to require of persons making application for the use of school properties any information he may deem necessary to establish the status of the organization, or group, requesting the use of the school properties and the nature of the proposed use. Careful accounts shall be kept by the organization, or group, concerned and a complete report of them filed with the superintendent within five days after the date specified in the permit for the use of school properties.

8. The educational activities of the school shall always have right of way.

9. Organizations, or groups, using school properties shall be held fully responsible, collectively and individually, for the observance of these rules. Failure in this observance may result in refusal to consider further applications.

10. No spirituous liquors, tobacco, obnoxious language, or "rowdyism" shall be permitted.

11. Those using school properties shall confine themselves to those parts of the building, or properties, designated in the permit. School janitors, and others designated for the purpose, shall have authority to enforce this rule.

12. School furniture and equipment shall be removed only with the consent and under the direction of the janitors.

13. The building shall not be opened more than three nights a week nor on Sundays, except in emergency.

14. The parent-teacher association, the improvement association, and organizations and groups of pupils shall have free use of the school properties. It is expected, however, that pupil organization will use the properties in the late afternoon whenever possible.

15. Special equipment of the school will be granted only to organizations and groups in charge of persons who can properly care for such equipment.

16. No person whose conduct is not objectionable shall be denied admission to, or be ejected from, any meeting held under a permit granted by the school authorities.

A COOPERATIVE JOB

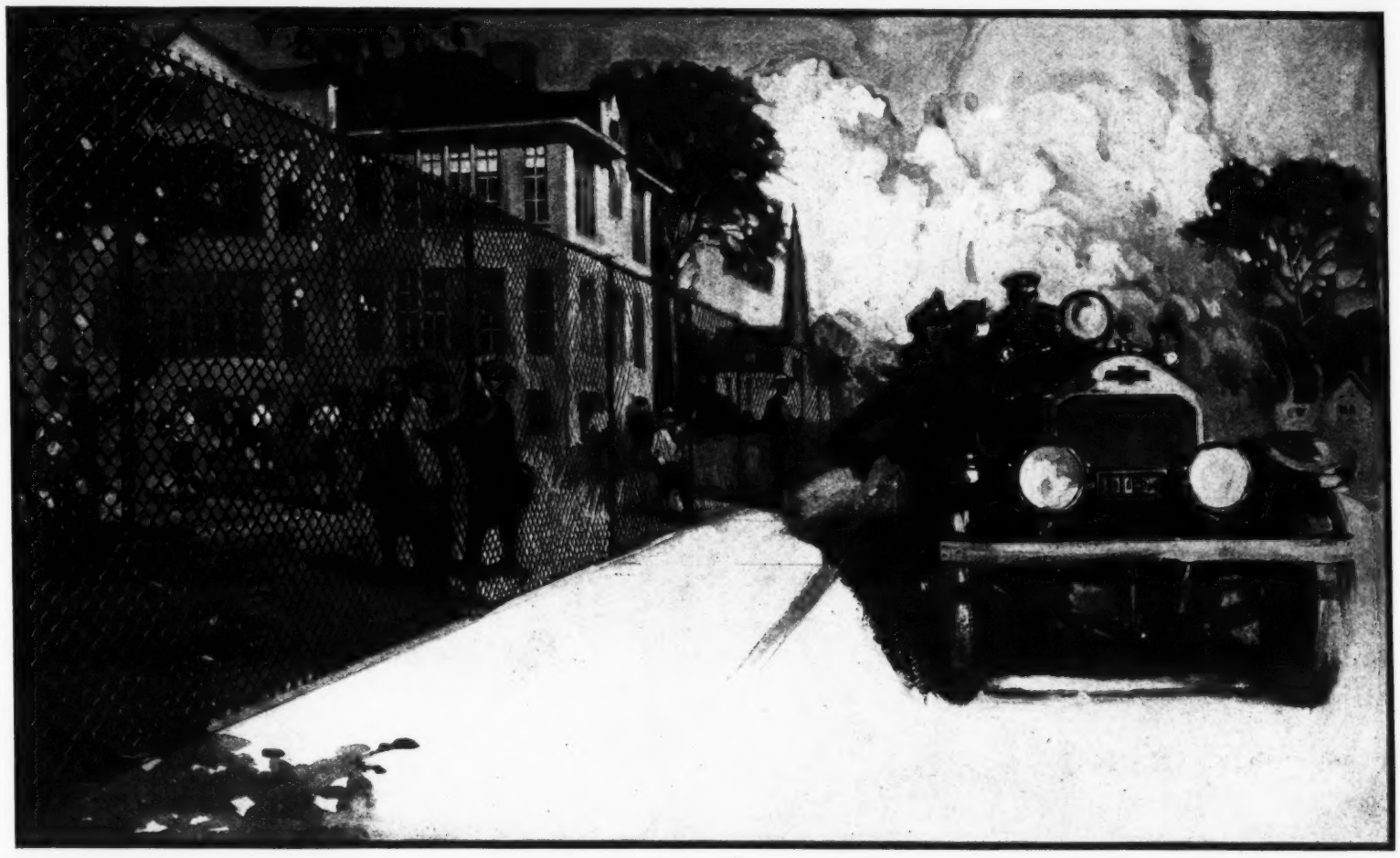
The education of boys and girls in a modern school requires more than a teacher and a group of children. Janitors and engineers, plumbers and painters, psychologists and physicians, clerks and stenographers, truck drivers and stockmen, principals and supervisors — all these, as well as the teacher, are essential elements in educating the children of a great city.—Paul T. Rankin.

RULES AND REGULATIONS

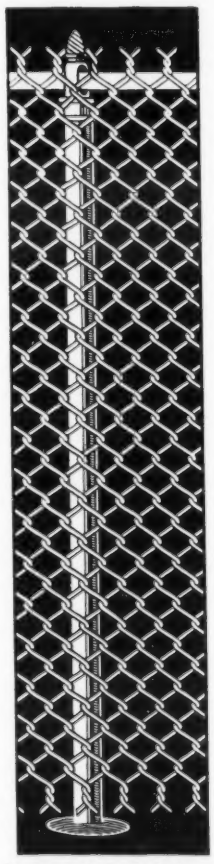
—Lincoln, Nebr. Under a new ruling of the school board, none of the Lincoln high schools are permitted to schedule evening football games. With the decision to prohibit evening football, the school board voted to give additional financial support to sports, games, and high-school athletics in the next school budget. It obviates the necessity of making the gridiron sport furnish revenue for track, swimming, and other athletics which are not financially self-supporting.

—Under a recent ruling of Attorney General Bettman of Ohio, no person may utilize so-called "religious" freedom in an effort to evade compliance with the state law requiring parents to send their children to school. The attorney general held that the statutes are constitutional and that they operate uniformly on all citizens, as long as they do not interfere with the religious freedom granted by the constitution. The ruling was given in the case of a parent who refused to send his children to high school on the ground that his religious sect did not believe in high-school education, and that to compel the attendance of these children at school would constitute an infringement of their religion.

—Minneapolis, Minn. The board of education will receive the largest portion of every dollar the property owners pay in taxes during 1930, according to a computation made by Mr. H. A. Stuart, city statistician. The school board, it is estimated, will receive 30 cents out of each tax dollar. The board of estimate cut $128,000 from the school board's budget, lowering the levy for educational purposes from .39 of a mill to 22.5 mills.



DANGEROUS YESTERDAY! SAFE TODAY!



Cyclone Chain Link Fence is furnished with H-Column Posts — proved by tests the strongest fence posts made. Set in reinforced concrete foundations which resist cracking from frost action.

School houses and playgrounds where hundreds of children are gathered must be *absolutely safe.* That's the modern idea. In one city, two school buildings were recently closed and 45 others condemned because they were found to be unsafe.

Today, a playground that is not protected by a good fence is as out of date as a school building that is not fire-proof. The country over, leading schools are bringing their playgrounds up to date with Cyclone Fence—the dependable playground protection.

Cyclone Fence makes the school more attractive, and at the same time allows children to play in complete freedom — safe from traffic dangers. Made of copper-steel and heavily galvanized to last many years.

A trained Cyclone Erection Crew is stationed near you to install the fence and give prompt service. We assume all responsibility. We will gladly send a Cyclone representative to talk it over with you. Write us.

Cyclone Fence

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All chain link fence is not Cyclone. This nameplate identifies the genuine Cyclone Fence.

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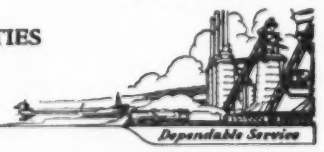

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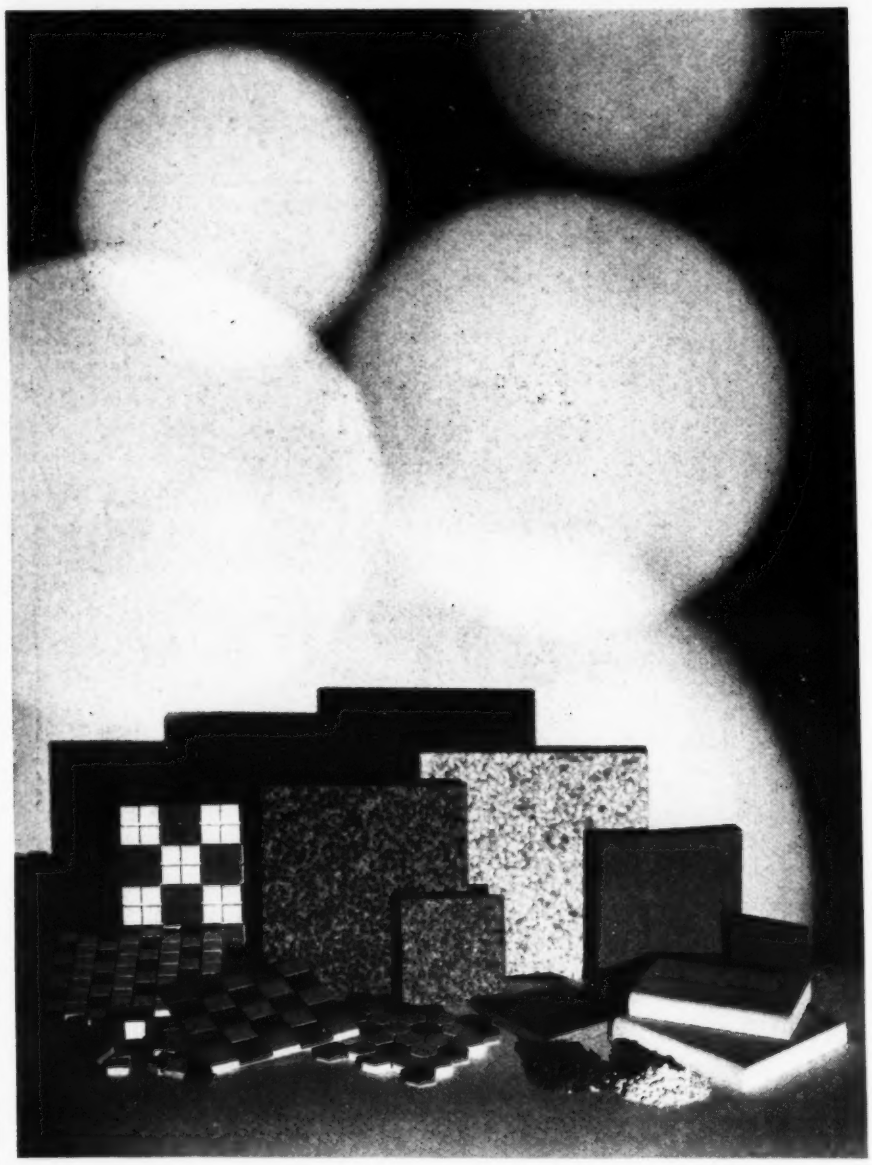

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Stair and Floor Materials—

for Safety and Durability in Modern Schools

Norton Floors are not just another brand of tiles and treads recommended for use anywhere and everywhere. Norton Floors were developed for a specific purpose—to meet a definite need. They are for use wherever there is a slipping hazard and wherever traffic is exceptionally severe—for stairs, corridors, entrance vestibules, lavatories, showers, swimming pools and similar places in schools and other public and business buildings.

The distinctive features of Norton Floors are the use of the electric furnace abrasive "Alundum" and the method of bonding the abrasive. The latter feature gives these materials their permanently non-slip surface, wet or dry, while the extreme hardness and toughness of Alundum abrasive gives exceptional resistance to wear—a durability that practically eliminates maintenance expense.

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BUILDING NEWS OF THE SCHOOLS

NEW USES FOR SCHOOL BUILDINGS

Better and finer school buildings were recently advocated in a radio talk by James O. Betelle of Guilbert & Betelle, architects, New York City.

As an outstanding example of the wider use of school buildings as civic centers, he referred to the Columbia High School at South Orange, N. J., "which is constantly being used for cultural, charitable, and civic purposes by citizens of the community. There is great economy in this duplicate use of buildings and the citizens would feel more like paying their taxes if they saw their school buildings used not only for the pupils but also for the adults of the community."

He called attention to the fact that following the perfection of the motion picture provision was made in the schools for projection apparatus and now no school is complete without such equipment. "The latest development," he added, "and one pointing to great possibilities is the radio. No school building is complete today without its radio equipment. For example, the new high school at Great Neck, one of the finest buildings in this part of the country, has an unusually complete radio equipment."

THE REMODELING AND RENOVATION OF THE HOLBROOK SCHOOL, HAMTRAMCK, MICHIGAN

Can an old, worn-out schoolhouse be remodeled so that it will be safe, sanitary, and entirely suited to a present-day program of education? While an affirmative answer to this question depends largely upon the specific school buildings under consideration, the successful experience of one board of education is worthy of consideration.

The old Holbrook School at Hamtramck, Mich., was antiquated, a fire hazard, and was entirely unsuited for the educational program required. A safe and modern school plant was necessary.

It was difficult to secure the money needed for a new building and an additional site. A careful examination of the old building revealed that the outside walls were substantial. An exhaustive study was made of the possibilities of arrangement of classrooms within the building in such a way as to meet the needs of the desired educational program. A very practical arrangement was worked out, and the educational program and requirements were given to the architect who designed the building in accordance with them. The entire interior of the building was removed. Some of the woodwork, the blackboards, and a portion of the heating plant were used in the new building. A color scheme was adopted and the woodwork and old and new furniture were painted in accordance with the color scheme.

With the plan completed, the architect was commissioned to prepare the technical specifications, which were given to bidders. The contract was awarded to the lowest bidder, at a cost of $127,-198, which included architects' fees. The equipment was estimated to cost an additional $13,000.

The building which is now one of the best in the city, accommodates approximately 800 children. It conforms in every way with modern educational requirements. The old toilets in the basement were removed and new toilets located on each of the three floors. Adequate firing facilities and correct ventilation were provided. Fuel is now stored in proximity to the boiler room. An auditorium and a gymnasium have been included, as also rooms for special subjects, and a library. The building houses, for the first time, adequate administrative quarters, including offices for the principal and assistant, as well as a vault and storeroom. There is also a kitchenette, a clinic room, and boys' and girls' showers. Each room has been equipped with a radio and loud-speaker so that messages may come from the principal or teacher over the microphone and so that programs may be received from the outside.

The building was completed at a cost of $140,-598, or a net saving to the taxpayers of $209,402. Figuring the cost of a new site, the total actual saving by the remodeling of the building was $359,-402.

SAFETY POLICY OF SAN FRANCISCO IN SCHOOL CONSTRUCTION

Architects, contractors, building inspectors, members of the board of public works and the school authorities of San Francisco are as a unit in their stand for maintaining the "high standards of school construction" used in San Francisco.

Recent reports made to the board of education that the unit cost per cubic foot in San Francisco was higher than in other cities, Oakland being particularly mentioned as an example, have focused attention upon the question of the cost of building the new San Francisco schools.

As the result of a request from the board of education, Colonel David P. Hardy, deputy superintendent of schools, was instructed recently to make a comparative study of school-construction costs. Mr. Hardy's report will not be ready for several days. He has been busy with members of the city architectural bureau in preparing the report. A feature of the study being made has special reference to the type of construction, particularly those factors relating to fireproof buildings and maximim safety to guard against the earthquake hazard.

"The school board in 1924, after long deliberation and many consultations with architects and engineers fixed a policy for a maximum safety factor," said Hardy. "As a result our recent schools have been either of steel frame and reinforced-concrete construction or all reinforced concrete."

Architect John Bakewell, Jr., who has designed several of the new school buildings, said, speaking of the San Francisco policy: "There can be no question of the type of building when it is to be two or more stories in height. It must be either Class A or B in construction. That is imperative for this city. I believe that all school buildings erected here in the past few years are of the highest type and I am certain that there is no way in which to cheapen the cost and still maintain that high type.

"A one-story building is a different matter. It can with every degree of safety be of Class C construction. But because of the restricted area of our school sites, one-story school buildings are not possible in San Francisco, except as temporary measures."

Timothy Reardon, president of the board of public works, which attends to all school construction under direction of the board of education declared: "San Francisco taxpayers have received 100 cents on the dollars in every school contract, sometimes even more, for I know of contractors that lost money."

Referring to figures on file in the board of public works, Reardon said that the San Francisco policy of reinforced-concrete buildings is a saving to the taxpayers. He continued: "The figures of cost per cubic foot show that in Oakland four new school

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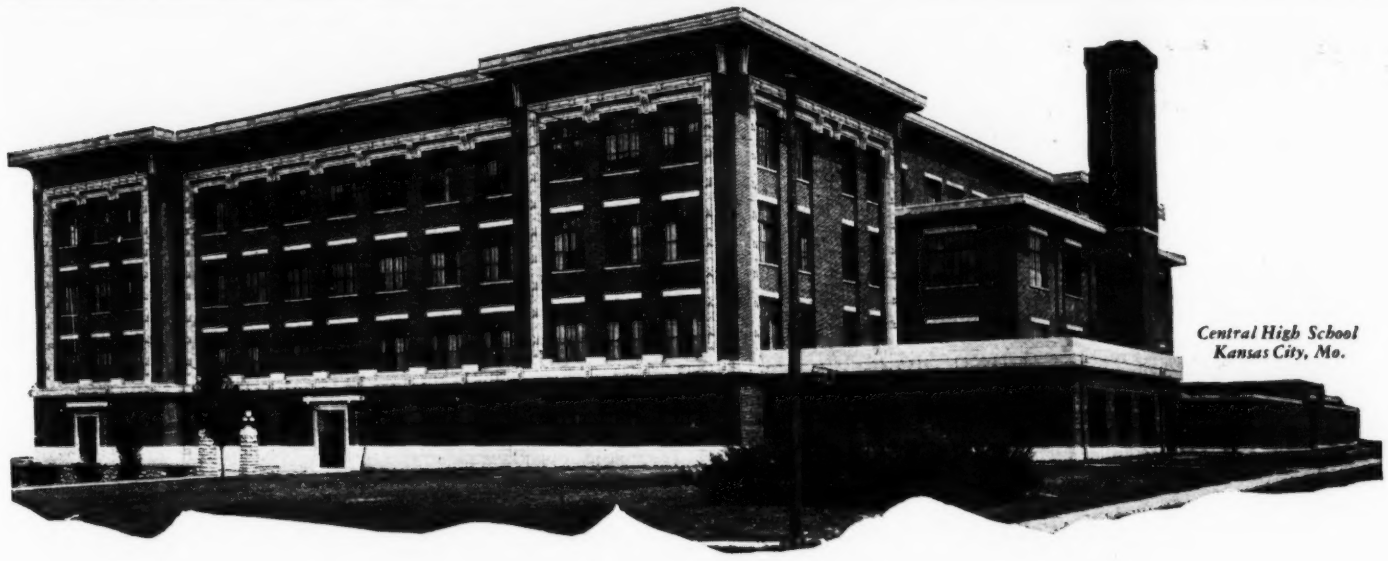

Central High School
Kansas City, Mo.

"Hard Maple Flooring

fills a definite need in school construction"

says
NATE W. DOWNES
Chief Engineer,
The School District of
Kansas City, Mo.

"Our Hard Maple floors have proven very satisfactory. They are long-lived, economical, and very sanitary under proper care.

"Hard Maple takes a natural polish which is pleasing to the eye and reflects rather than absorbs light. It fills a definite need in school construction and offers many distinctive advantages."

This statement from Nate W. Downes, Chief Engineer of the Public School District, Kansas City, Mo., is typical of the many recommendations received from school boards, superintendents, and architects throughout the country. It gives added weight to the generally accepted opinion that Northern Hard Maple Flooring best fills the needs of educational structures.

Back of the widespread use of Northern Hard Maple in school buildings is the fact that here is one flooring material which combines warm, dry, cushioning comfort with the qualities of lasting wear which school use demands.

This resilient flooring material is remarkably tough-fibred and tight-grained. It will not sliver or splinter. Scuffing, youthful feet and the moving of equipment simply make it smoother with time. Northern Hard Maple, moreover, because of its permanent smoothness, is exceptionally easy to clean and keep clean. It offers no open lodging places for dust and germ-laden dirt to collect. And it permits quick, simple, permanent anchorage for seats.

Hundreds of school boards have been guided by these facts in selecting flooring. They have chosen Maple for classrooms, gymnasiums, corridors, assembly halls. Consult your architect about Northern Hard Maple.

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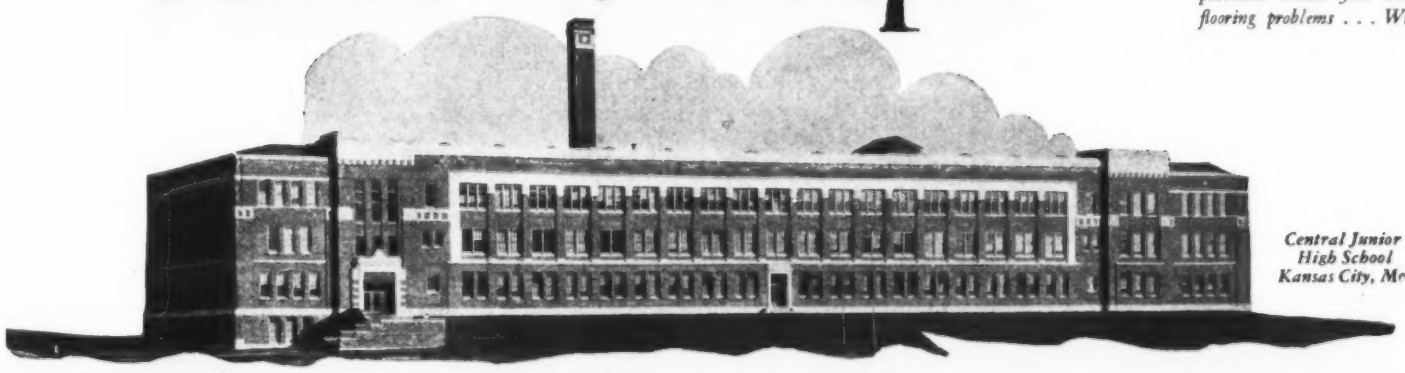
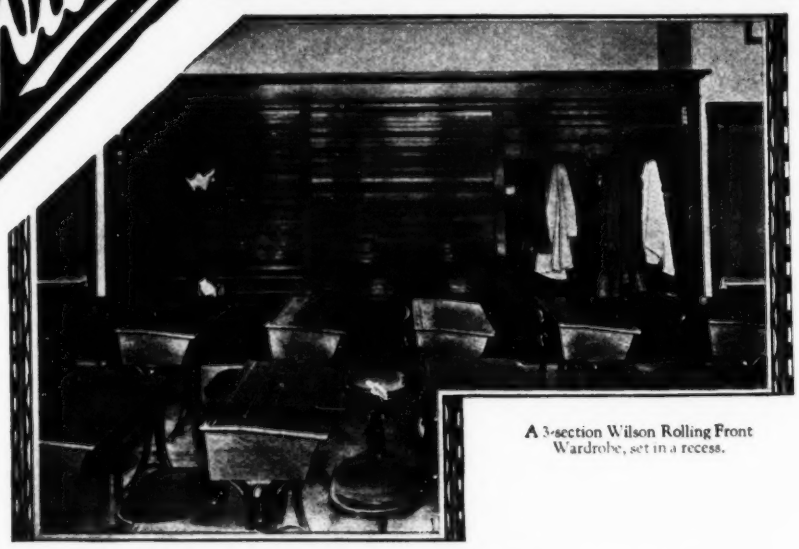


Central Junior High School Kansas City, Mo.

Wilson

HYGIENIC SCHOOL WARDROBES
with
Rolling Fronts Save Valuable Classroom Space.....Economy for Small Schools . . .



A 3-section Wilson Rolling Front Wardrobe, set in a recess.

SCHOOL Boards of smaller communities, charged with the necessity of saving every possible dollar of school construction cost and the conservation of every possible inch of class room space, turn to Wilson Rolling Front type of Hygienic Wardrobes as a primary measure of economy.

The Rolling fronts may be finished with blackboard surface if desired, and wardrobes may be connected with ventilating system. Whether fitted into wall recess, as pictured, or set against the wall they provide adequate clothes room at minimum space displacement.

Send for Catalog No. 14.

Full details of the Wilson Rolling Front economy Wardrobe, as well as other popular Disappearing Door types will be sent on request. Over 50 years of Wilson development, the Wilson one year guarantee and Wilson National Installation Service insure the best at *the least commensurate cost.*

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Offices in all Principal Cities
Also Manufacturers of Wilson Sectionfold and Rolling Partitions

OVER 50 YEARS OF "KNOW HOW"

(Continued from Page 76)

buildings where brick was used, the costs were higher than for schools erected in San Francisco of reinforced-concrete. The Oakland Lincoln elementary and the Prescott junior high schools, Class C, built of brick, cost 32.4 and 33 cents per cubic foot, respectively. The Frick junior high school and the Garfield junior high school which are Class C, with steel frames and brick walls, cost 35.4 and 38 cents respectively.

"Compare that with the 24.2 cents per cubic foot cost of the San Francisco Emerson elementary school, the Sanchez elementary at 26.8 cents and the Douglass-Everett elementary school at 28 cents, all reinforced concrete and thoroughly fireproof.

"The Mission high school with a steel frame and reinforced concrete, cost 29.4 cents per cubic foot. It shows that San Francisco is getting full value and erecting fine schools, buildings that will last for generations.

"And finally the Roosevelt high school in Fresno, all steel frame and reinforced concrete Class A building cost 35.8 cents per cubic foot."

Dr. Joseph Marr Gwinn, superintendent of schools, said: "It seems strange that there should be any question about the types and cost of San Francisco's new schools. Visiting educators have declared that our new buildings are the finest in the country. The Horace Mann school has been selected as a model and its plans sent to every state and city.

"Early in October Dr. Jens Nydhal, superintendent of schools in Berlin, Germany, spent several days here. After inspecting all our new schools he declared the Everett junior high school to be the finest type of school in design, finish, and equipment and in type of construction in the world. He asked us to prepare and send him a complete set of plans, saying that he proposed to recommend to the Berlin authorities new schools of the same type. He was particularly impressed by the safety factors and the extensive use of concrete."

A MILLION DOLLARS FOR RURAL-SCHOOL BUILDINGS IN ALABAMA

The last legislature of Alabama made an effort to place in the hands of the county boards of education and of the officials of the higher institutions more than twenty million dollars for the erection of better school buildings. More than thirteen million of this sum were to be spent for the construction of rural-school buildings. The enabling act, which was made a part of the bill allowing a constitutional amendment providing for a bond issue for the amount mentioned, made it clear that each county would receive $200,000 from the proceeds of the sale of the bonds.

For a time there was no information at hand that could be relied upon as to what the building needs were in any county in the state. Since that time, surveys have been made in thirteen counties. While the number represents only one fifth of the counties of the state, they represent every section of the state and are typical of what may be found by a survey in each county.

A report made by the staff in each survey shows that the number of new buildings required ranged from 5 to 19. A conservative estimate on the cost of these buildings and equipment, as shown by the reports, ranges from $150,000 to $700,000.

With the small appropriation for the erection, repair, and equipment of buildings, which amounts to $5,000 per county, the donations the people have made, and the limited amounts that may be had in the average county from the district and county taxes, a large per cent of the counties are carrying on as large a building program as their limited finances will permit. The data show that a total of 38 counties have made application for state funds ranging in amounts from a few hundred to more than twenty thousand. The total applied for is $220,444, with a balance of only $40,830, out of which to approve the applications. This means that each application may be approved for only 18½ per cent of the amount applied for.

An appropriation of $350,000 by the state represents a building program of more than a million dollars, since the local communities must raise and spend on the building, two dollars for every one which the state appropriates. Often they raise and spend more than ten dollars to one appropriated by the state.

It has been stated by some who opposed the issue that it is doubtful whether many counties in the state really needed rural schoolhouses to the amount of $200,000. The statement was no doubt based on the fact that in many counties the school buildings are very poor. Where this is true, there is no doubt some argument for statements that some counties would not know how to spend the money for buildings should it be turned over to them. It is true that boys and girls living in these less fortunate counties are just as deserving as those who live in the more favored sections.

EXHIBIT OF SCHOOL BUILDINGS AT ST. LOUIS, MISSOURI

An exhibit of elementary, secondary, and private schools was held November 13–16 at St. Louis, Mo. The exhibit was prepared and arranged by Mr. William B. Ittner and was held in connection with the Missouri Teachers' Association convention.

The exhibit which comprised a variety of types and kinds of buildings, included water-color sketches, photographs, charcoal and pencil drawings, photographs of interiors and exteriors of schools, and typical site and playground developments in 45 cities and towns, including St. Louis, and 15 cities in Missouri. In addition to St. Louis, a number of other Missouri cities were represented, including St. Joseph, Springfield, Columbia, Hannibal, Sedalia, Cape Girardeau, Normandy, St. Charles, Sikeston, Webster Groves, Maplewood, Clayton, Overland, Kirkwood, and University City.

BUILDING NEWS

—Idaho Falls, Idaho. The school board has two school buildings under construction at the present time. One is a ten-room elementary building, with a capacity of 400, and an estimated cost of $60,000. The other is the first unit of a junior high school, containing eight rooms and a gymnasium, with a capacity of 300, and an estimated cost of $99,800. Both buildings have been planned, and are being erected, from plans of Messrs. Sunberg and Sunberg, architects, of Idaho Falls.

—Maplewood, Mo. The first and second units of a new high school will be erected, at a cost of $300,000. Mr. William B. Ittner, St. Louis, is the architect.

—Webster Groves, Mo. The contract has been let for the erection of the fifth and last unit of the high school and for alterations to the Mark Twain School. The architect is Mr. William B. Ittner, St. Louis.

—Clayton, Mo. Contracts have been let for the erection of additions to two elementary schools and the high school. Mr. William B. Ittner, architect, St. Louis.

—Downers Grove, Ill. Two new grade schools have been occupied with the opening of the new school year. The school board has erected three grade buildings, and a half-million-dollar high school within the past few years.

—Wausau, Wis. After a careful study of three years, the school board has announced an extensive school-building program, involving an estimated

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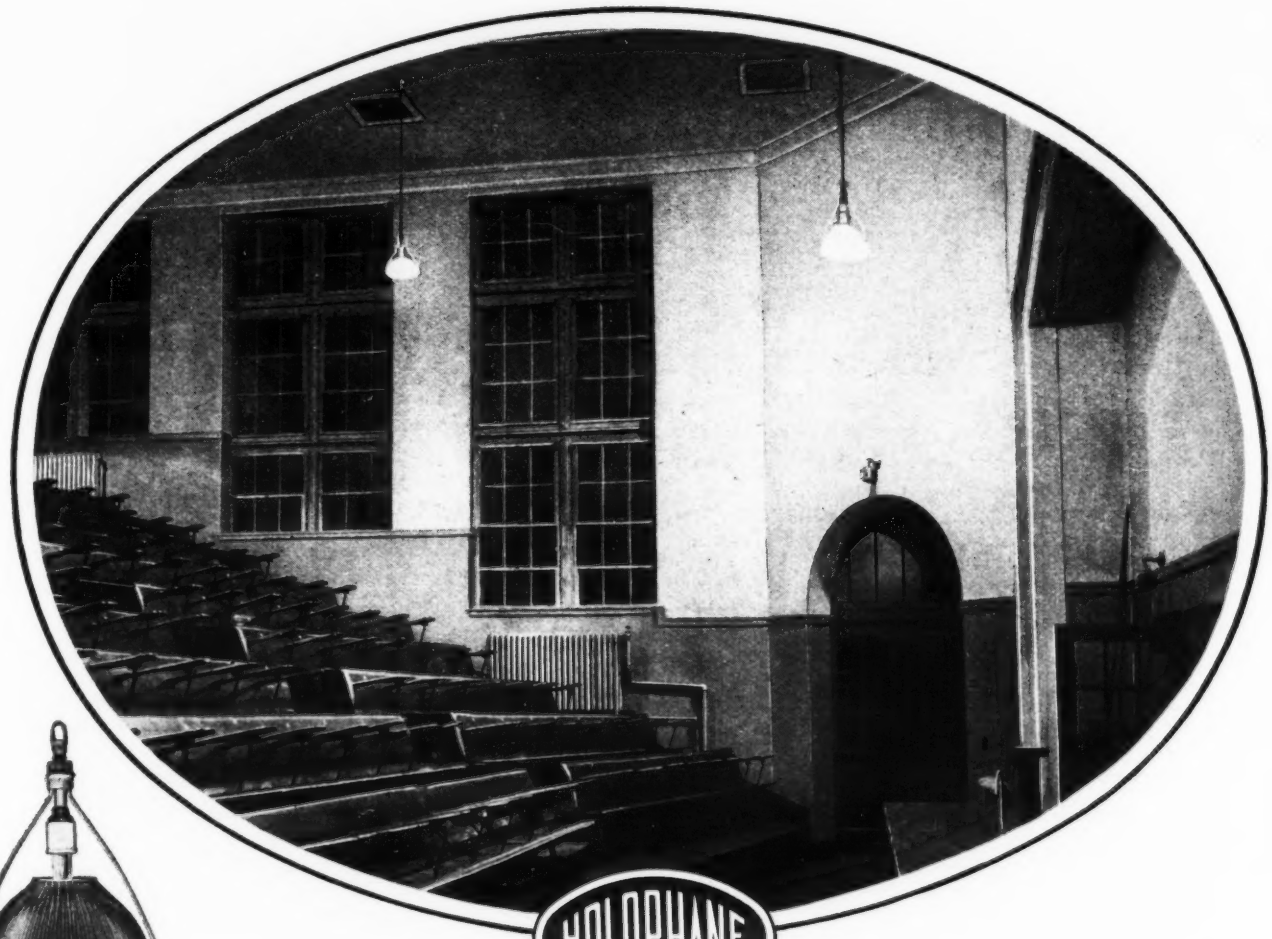

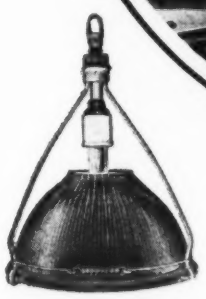

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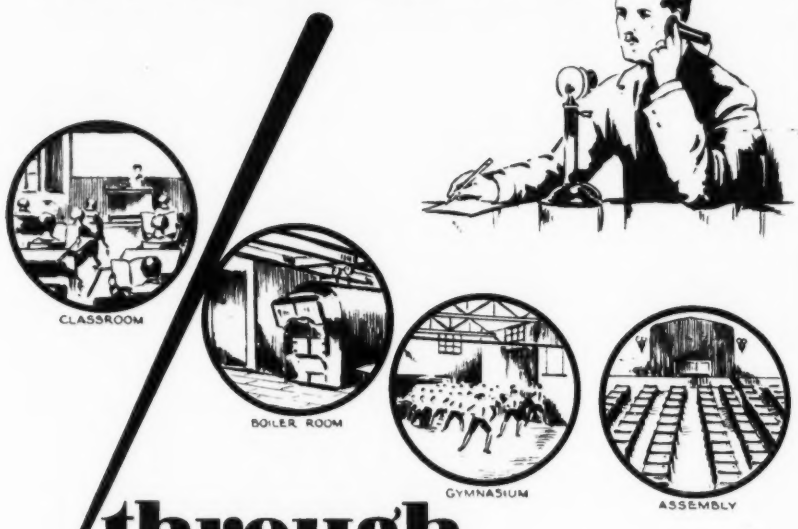

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The automatic "Code Call" system incorporated in the "All-Relay" Exchange gives all telephones on the system immediate access to any party regardless of his or her location in the building at the time of the call. This ensures instant and reliable contact with any member of the organization at any time of the day or night.

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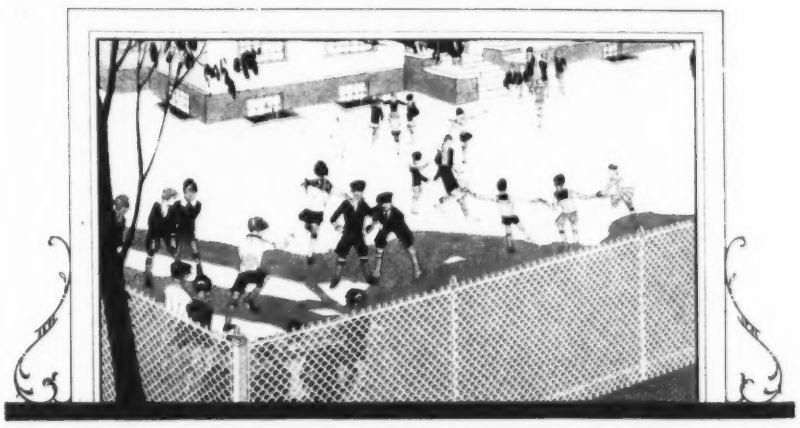
Representatives in all principal cities. Consult local directory.

ANCHOR *Fences*



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(Concluded from Page 78)

expenditure of $1,150,000. The program provides for a senior high school to cost $1,000,000, a grade school to cost $100,000, and an addition to the John Marshall School to cost $40,000. The school board has taken up a study of ways and means of financing the building program.

—The school board of Manitowoc, Wis., has asked the city council for permission to float a bond issue of $300,000 for the erection of a junior high school building on the north side. The new building is part of a proposed program for the building of junior high schools, which the school board feels can no longer be delayed without injury to the health of students and teachers. The new building which will be built in units, will be of fireproof construction, and will cost $275,000.

—Newport Harbor, Calif. The high school board of the Newport Harbor Union High School District has called a bond-issue election to vote bonds in the amount of $400,000 for two schools in the new district. The district has an assessed valuation of nearly $9,000,000.

—Santa Cruz, Calif. The voters recently approved a proposition to bond the city for $330,000 for the building of new schools.

—Lawrence, Mass. The school board has invited the local architects to make a survey of the high-school building to determine if additional classrooms can be included in the present building. The cost of the proposed addition is $100,000.

—Plans have been prepared for a university high school for West Virginia University, at Morgantown. The school which will take the form of a junior high school, will be adapted to the Dalton program, and will be erected under the supervision of the state board of control. The building will have accommodations for 500 students and will be erected at a cost of $260,000. Messrs. Davis, Dunlap & Barney, Philadelphia, Pa., are the architects.

—Clarkston, Mich. The voters have approved a bond issue of $150,000 for the building of a high school and grade school. The school will be completed with the opening of the school year in 1930.

—New York, N. Y. President George J. Ryan of the board of education has anticipated that the school-building program for 1930 will involve an expenditure of $45,000,000. The program will concentrate on the outlying districts, where the increase in population has been most marked. New schools will be erected chiefly in the new sections of Queens and Brooklyn boroughs.

—Supt. Carroll R. Reed, of Minneapolis, Minn., has begun plans on the new standard building plan for the city schools. Construction work on the new Folwell High School has been delayed awaiting the completion of the new standard plan.

—Texarkana, Tex. By a vote of 12 to 1, the citizens have approved a school-bond issue of $225,000 for school-building purposes.

—New Orleans, La. The school board has asked for bids for the sale of $3,000,000 in school bonds. The proceeds will be used for the erection of new school buildings. Of the total, $500,000 will be used for the erection of the Fortier High School, to accommodate 1,500 students.

—The school board of Battle Creek, Mich., has received a gift of $150,000 from Mr. W. K. Kellogg toward a $300,000 school. The school will be known as the Anne J. Kellogg School, in memory of Mr. Kellogg's mother, and will replace a structure built in 1861.

—Navasota, Tex. The school plant will be remodeled and adjusted to meet the additional demands caused by the obsolescense of the old plant. Bonds in the amount of $130,000 have been voted. The construction work will be carried out under the direction of Architects Giesecke & Harris, of Austin.

The new program will include the erection of a large high school on an adequate site, which will include provisions for a playground. The old high school will be remodeled for the use of the upper grades, while the old grammar school will be used for the primary grades.

—Racine, Wis. Supt. F. M. Longanecker has presented a report to the school board, outlining suggestions for a combination junior high- and elementary-school building, to contain forty rooms, and to be erected at a cost of approximately $350,000.

—Kansas City, Mo. With a vote of more than eight to one, the citizens recently approved a five-million-dollar school-bond issue, polling a total vote of 47,779. A count of the votes showed 42,580 for the loan and 5,199 against it. The election results were interpreted to be the result of a determined effort on the part of the school supporters to wipe out the blot caused by the defeat of the bonds in March, 1928.

—Knoxville, Tenn. The city council has reduced the school board's budget from $1,249,000 to $1,168,000, which represents a loss of $81,000 from the budget recently adopted by the school board. Under the reduced budget, the school board will be compelled to relinquish proposed repairs.

—Clarkston, Mich. The citizens recently approved a bond issue of $150,000 for a high-school building. The proposition was carried with a vote of 161 to 99.

—Newark, N. J. The school board has received bids on $827,000 in bonds. The proceeds of the bonds will be used for additions and alterations to school buildings.

—West Babylon, N. Y. The school board has sold a $250,000 bond issue for the erection of a new school. The bonds carried an interest rate of five per cent and were sold at a premium of $101,158.

—Criminal negligence in protecting the health of school children, incompetence, or indifference in planning new school buildings, and tremendous construction costs have been charged against the New York City board of education by Mr. Norman Thomas, Socialist candidate for mayor. Mr. Thomas made a statement, in which he showed that the average cost of high-school construction in New York is 25 per cent higher than in Philadelphia, 34 per cent higher than in Cleveland, and 38 per cent higher than in Columbus. The most expensive of the city's high schools is that in Jamaica, which cost 58.2 cents per pupil, while the George Washington cost 48.8 cents per pupil. These figures are compared with Philadelphia, where high-school construction cost 39.9 cents per pupil; Cleveland, where it was 36.4 cents, and Columbus, where it ranged from 25.8 cents to 30.5 cents.

—Bay City, Tex. The citizens recently approved a school-bond issue of $75,000 for the erection of a high-school building and the remodeling of the present buildings. Mr. H. W. Payne, of Houston, Tex., has been employed as architect for the proposed buildings.

—Cleveland, Ohio. For the first time in the history of the schools, the citizens have defeated a school-bond issue of $1,000,000 for school-building purpose. A count of the 720 precincts showed that 1,400 votes were lacking of the 55 per cent majority necessary to carry the proposition. This means that some of the proposed improvements will be abandoned.

Standards for Stairways, Corridors, and Exits in Elementary-School Buildings

Compiled by Samuel A. Challman, State Director of School Buildings for Minnesota

The present compilation of school-building standards for corridors and exits concludes the statement of standards begun in the June issue of the SCHOOL BOARD JOURNAL.

VII. Handrails

Connecticut. Stairways . . . . equipped with handrails on each side.—Connecticut 1927, p. 11.

Delaware. There shall be a substantial handrail on each side of the stairs.—Delaware 1927, p. 19.

Idaho. Handrails on each side.—Idaho 1927, p. 10.

Maryland. Handrail, both sides.—Maryland 1926, E. 3.

Massachusetts. Balustrades shall be not less than three (3) feet in height on landings nor less than two (2) feet eight (8) inches on runs plumb over risers.—Massachusetts Form B-1, Part II, Sec. 6, Item 7.

New Jersey. Handrails shall be properly placed on both sides on all stairways used by pupils, and the inside rail must be continuous.—New Jersey 1925, Sec. 45.

New York. All stairways used by pupils shall have handrails on both sides.—New York 1925, p. 11.

Ohio. Handrails shall be provided on both sides of all stairways and steps.—Ohio 1926, p. 16.

Pennsylvania. All main stairways . . . . shall be provided with handrails.—Pennsylvania VII, 1, (a).

Texas. All stairs shall have a handrail on each side and of such size and so placed that it can be held easily by the pupils using these stairs.—Texas Schoolhouse Building Law, 1913, Sec. 11.

Virginia. Stairs must be provided with a handrail to each side from bottom to top.—Virginia 1928, VIII (c).

Wisconsin. Handrails shall be provided on both sides of all exit stairs used by pupils.—Wisconsin 1925, Order 5606.

VIII. Gradients

Indiana. To overcome any difference in floor levels requiring less than three (3) risers, gradients shall be employed with not more than one (1) inch rise in each twelve (12) inches of run.—Indiana 1915, Sec. 26.

Minnesota. To overcome any difference in floor levels which would require less than three (3) risers, gradients may be used of not more than one-inch rise in ten-inch run.—Minnesota 1928, Sec. 42.

CORRIDORS

1. Width

Connecticut. In schools having corridors, the width of each corridor should be ten (10) feet.—Connecticut 1926, p. 11.

Delaware. The main corridor shall not be less than eight feet in width in the clear.—Delaware 1927, p. 19.

Indiana. Main corridors, passageways, hallways and exit doorways shall be equivalent in width to at least twenty four (24) inches for each one hundred, or fraction part thereof, of seating capacity of such portions of the building as will be required to use the same for exit. No corridor, passageway or hallway shall be less than five feet in width.—Indiana 1915, p. 3, c.

Massachusetts. In buildings hereafter erected, corridors shall be not less than eight (8) feet in width in the clear for buildings with eight (8) classrooms to a story, and shall increase at least one (1) foot and six (6) inches in width for every two (2) additional classrooms in a story. Where the building is to be used for a laboratory or similar purposes, averaging not over ten (10) persons to a room, corridors may have a minimum width of not less than six (6) feet.—Massachusetts B-1, Part II, Section 6, Item 6.

Minnesota. The minimum width of the main corridor of any school building containing four rooms or more shall be ten (10) feet. The minimum width of secondary corridors shall depend upon the length of such corridors and the number of doors leading to them.—Minnesota 1928, Sec. 34.

National Fire Protection Association. Corridors shall be at least eight (8) feet wide in the clear; door of lockers, if any, shall not project into this eight (8) feet clear width at any point during their swing.

NOTE: It is recommended that, in elementary schools, lockers should not be located in corridors.—Nat. Fire Protection Ass'n. 1929, Sec. 2127.

New York. The width of corridors should be from eight (8) to ten (10) feet, according to conditions.—New York 1925, p. 11.

Ohio. No hall or passageway leading to a stairway or exit shall be less in width than the stairway or exit, as the case may be.—Ohio 1926, p. 16.

Virginia. The width of corridors shall be graduated and determined by the number of classrooms, departmental rooms and auditorium capacity served. In no case shall the smallest secondary corridor be less than six feet wide and the total corridor width shall be increased six inches for each additional forty (40) persons served.—Virginia 1928, VII (b).

Wisconsin. The minimum unobstructed width of corridors and passageways which are used by the public or by the occupants generally shall be determined the same as the width of stairways (Order 5607) and shall in no case be less than four (4) feet. Corridors and passageways serving as a means of egress shall be at least equal in combined width to the required width of the stairways or the passageways leading to them.—Wisconsin 1925, Order 5609.

2. Lighting

Connecticut. Corridors should have ample daylight.—Connecticut 1926, p. 11.

Delaware. Corridors shall be adequately lighted. Delaware 1927, p. 19.

Maryland. The corridors must always be well lighted. There should be outside windows, stairways, or locker alcoves opening on corridors (making direct outside light) not farther than ninety (90) feet apart.—Maryland 1926, D. 1.

New York. Corridors should be abundantly lighted by large windows at the corridor ends. Partition sash in the classroom partitions for the purpose of lighting the corridors are not approved. The ends of corridors, terminating at the outside walls, should not be used for rooms, unless the separating partition is of glass which will admit ample light to the corridor.

Virginia. Corridors must always be well lighted. Virginia 1928, VII (a).

Wisconsin. Corridors and passageways . . . . shall be provided with windows and artificial light so as to be kept well lighted while building is occupied.—Wisconsin 1925, Order 5609.

3. Construction

Delaware. In two-story buildings, corridors shall have fireproof walls, floor and ceiling.—Delaware 1927, p. 19.

Maryland. No projections of any kind on walls. Corridors should always be fireproof, if building is more than one story high.—Maryland 1926, D. 2, 4.

New Jersey. Interior corridor walls and hallway floor construction must be of fireproof material.—New Jersey 1927, Sec. 40.

4. Miscellaneous

Maryland. Corridors must lead to stairways or exits, with no blank ends. All corridors should be planned to avoid confusion and should be symmetrical.—Maryland 1926, D. 3, 5.

Massachusetts. Corridors shall terminate on an egress . . . . and be free from sharp turns.—Massachusetts B-1, Part II, Sec. 6, Item 6.

New York. Corridors should not have projecting features, such as drinking fountains (they can be partly recessed in the wall), radiators or deep pilasters. . . . Partitions when used to separate corridors and stairs should be glazed with wire glass. Lockers, if located in corridors, should be built into the wall in such manner that their fronts shall be flush with the face of the wall and that there shall be a solid base below lockers not less than four (4) inches in height.—New York 1925, p. 11.

Ohio. Halls and passageways shall be so designed and proportioned as to prevent congestion and confusion.—Ohio 1926, p. 16.

Virginia. Corridors must lead to stairways or exits. All schoolhouses shall have all halls, doors, stairways, seats, passageways and aisles, and all lighting and heating appliances and apparatus arranged to facilitate egrees in case of fire or accidents, and to afford the requisite and proper accommodations for public protection in such cases.—Virginia 1928, VII (c) (d).

Wisconsin. Corridors and passageways shall be so designed as to prevent congestion and confusion.—Wisconsin 1925, Order 5609.

EXITS

1. Number

Delaware. There shall be at least two exits, separated as far from each other as possible from each building. Where the horizontal travel distance from classroom door exceeds one hundred (100) feet additional exits shall be provided to keep within this maximum distance.—Delaware 1927, p. 18.

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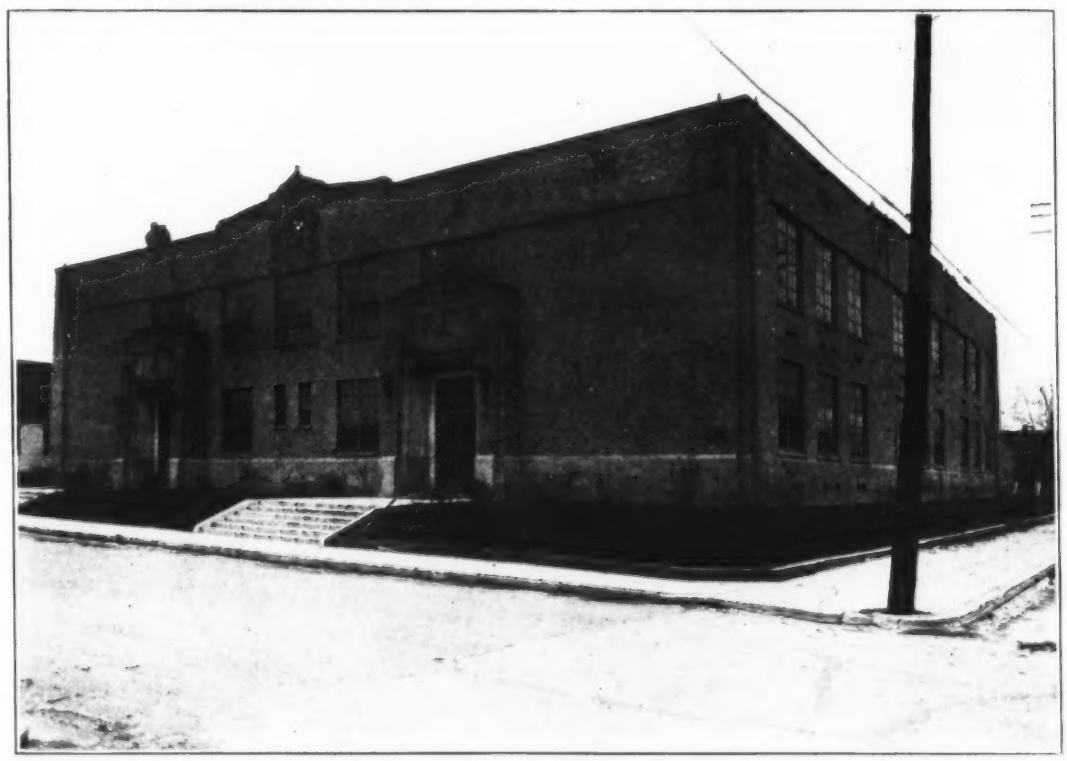

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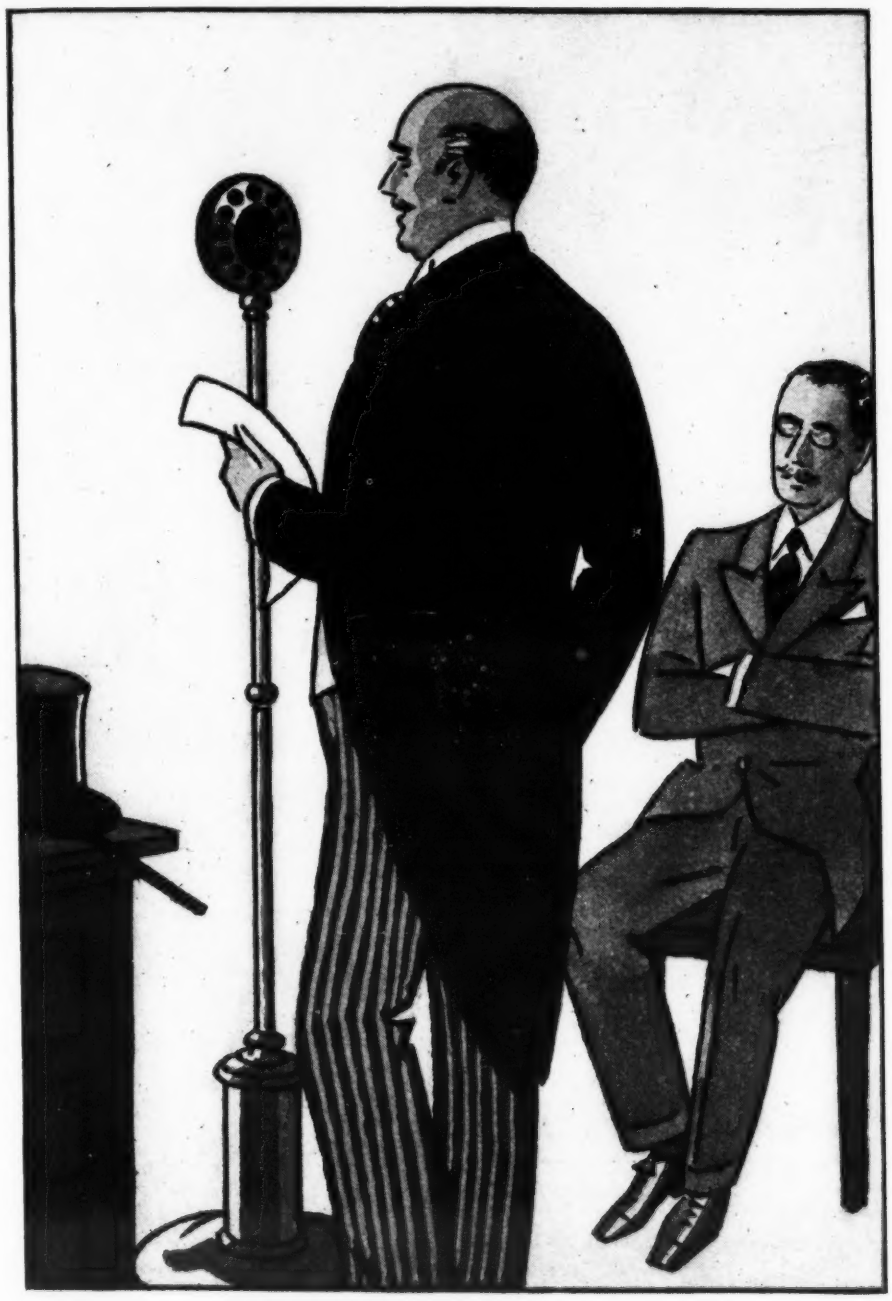

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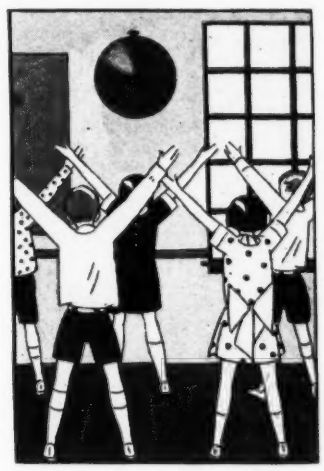

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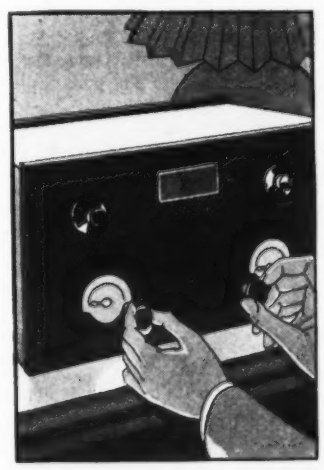

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(Continued from Page 82)

Massachusetts. Schoolhouses shall have at least two (2) independent egresses, as far apart as may be, aggregating at least two (2) feet in width for every one hundred (100) persons that the building will accommodate, including the assembly hall and gallery if such are to be used for other than school purposes, whenever the school is in session. . . . . Assembly halls, gymnasiums, galleries, and basements shall have at least two independent egresses as far apart as may be. One half of the gymnasium and basement egresses if so directed shall be to the outside, and where areas or steps are necessary they shall have approved handrails.

Class, recitation, domestic science, and manual training rooms and laboratories shall have at least two ways of egress, one of which may be through an adjoining room.—Massachusetts B-1, Part II, Sec. 6, Item 8.

Minnesota. Not less than two exits shall be provided for each building of four rooms or more. —Minnesota 1928, Sec. 35.

National Fire Protection Association. In buildings of non-fire-resistive construction, every room above the first floor with a capacity of over twenty (20) pupils (400 sq. ft.) shall have at least two means of egress. In case these egresses finally open upon the same corridor, the openings into the corridor shall be on opposite sides of a smoke-resistive door, and shall give access to independent stairways (2126). The basement (or "ground story") shall be treated the same as an upper story . . . . except that for basements the number of stories shall equal three and exits shall be provided accordingly, either stairs leading to the first story or doors leading directly outdoors (2140). First floor doors shall be provided as follows: (*a*) One unit of door width for each unit of stairs from upper floors. (*b*) One additional unit of door width for each unit of required stairs from basement. (*c*) One additional unit of door width for each 5,000 sq. ft. or fraction thereof of gross area of the first floor. (*d*) One additional unit of door width for each 900 sq. ft. or fraction thereof of floor area of auditoriums and gymnasiums on the first floor. —Nat. Fire Protection Ass'n. 1929, Secs. 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142.

Pennsylvania. Two-story buildings should have at least two means of exit from the second floor.—Pennsylvania 1915, VII 2 (b).

Utah. For one and two room buildings, one story high, one exit only will be required.—Utah 1927, Chap. II.

Virginia. Auditoriums accommodating 300 or less shall be provided with not less than two direct six-foot exits.

Auditoriums accommodating 300 to 1,000 shall be provided with at least three direct six-foot exits.

Auditoriums accommodating over 1,000 shall be provided with at least four six-foot exits.—Virginia 1928, VI (d).

Wisconsin.—In a one-room building only one exit will be required. In a one-story two room building only one exit will be required, provided all basement partitions are of incombustible material and the boiler room door is a standard fire-door. . . . . At least one basement exit shall open directly to the outside.—Wisconsin 1925, Order 5606.

2. Width

Indiana. No doorway shall be less than three (3) feet in width except where two or more doors, each two (2) feet eight (8) inches or more in width are grouped together.—Indiana 1915, p. 3.

Massachusetts. No . . . . egress shall be less than three (3) feet six (6) inches in width, except in one- and two-room buildings where such egress shall not be less than three (3) feet in width.—Massachusetts B-1, Part II, Sec. 6, Item 8.

Minnesota. Each exit shall not be less than forty-four (44) inches wide.—Minnesota 1928, Sec. 35.

North Dakota. All outside doors must be at least three (3) feet by seven (7) feet.—North Dakota 1926, p. 11.

Ohio. Exit doors shall not be less than three (3) feet wide, nor less than six (6) feet four (4) inches high level with the floor.—Ohio 1926, Sec. 12600-60.

Utah. The total width of exit from any floor shall not be less than the following, based on the total number of persons accommodated on such floors and on floors above: Ordinary construction forty two (42) inches per one hundred (100) persons, and fireproof buildings thirty (30) inches per one hundred (100) persons. — Utah 1927, Chap. II.

Wisconsin. The total width of exits from any floor shall be not less than the following rates, based on the total number of persons accommodated on such floor and on the floors above: Nonfireproof buildings, forty (40) inches per one hundred (100) persons. Fireproof buildings, thirty (30) inches per one hundred (100) persons. If the stairways are inclosed and an approved automatic sprinkler system is provided in the basement, such width may be reduced as in order 5404. (5607.) Exit door . . . . shall be not less than two (2) feet six (6) inches wide, if used by children under fourteen (14) years. . . . No single door or leaf or a double door shall be more than four (4) feet wide (5608). —Wisconsin 1925, Orders 5607, 5608.

3. Swing of Doors

Connecticut. Every . . . . schoolhouse . . . . in which people assemble, in larger numbers than one hundred (100), shall be provided with one or more exits, each exit consisting of a door so hung as to open outward, and in case any passageway from such . . . . schoolhouse . . . . to such exit contains one or more doors, each door shall be so hung as to open outward.—Connecticut 1926, Sec. 2601, page 10.

Delaware. A pair of double doors, opening outward shall be provided for each exit. These shall be substantial but not too heavy for children to swing with ease.—Delaware 1927, p. 18.

Idaho. All public buildings which may be used for . . . . schoolhouses . . . . shall be so built and constructed that all doors leading from the main hall or assembly room . . . . shall be so hung on their hinges and constructed that they shall open outward, and that all means of egress for the public from the main hall or principal room and from the building shall be by means of doors which shall open outward from the main hall or building. Any person or persons who shall fail to comply with the provisions of this section shall be guilty of misdemeanor.—Idaho. — Sec. 2590 Laws.

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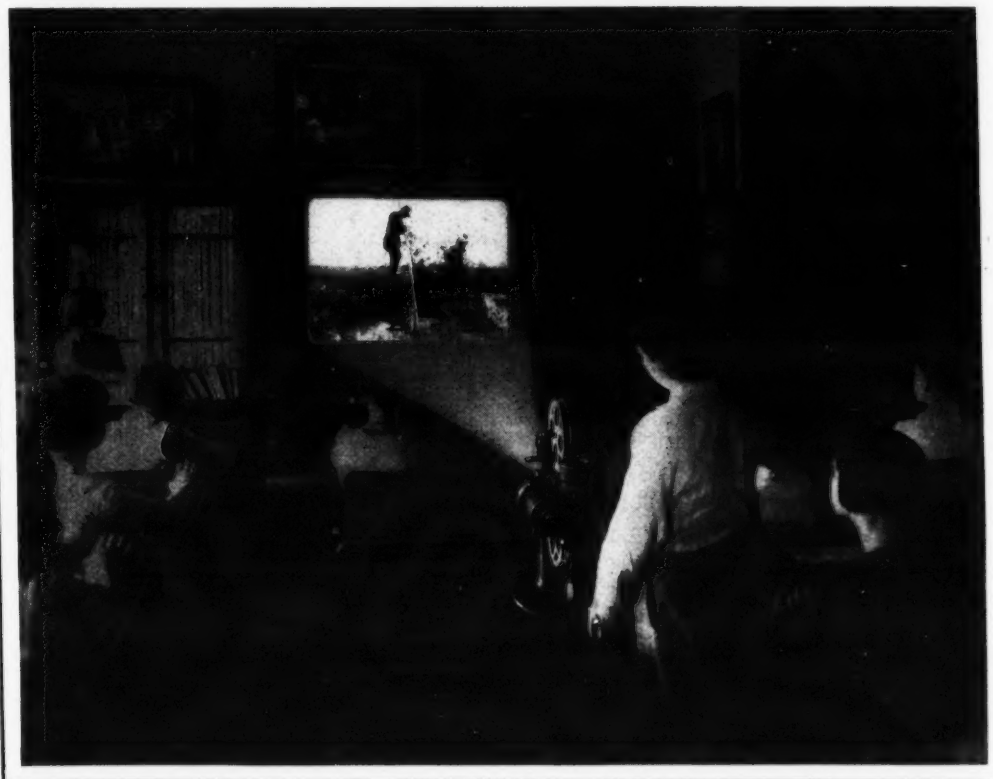

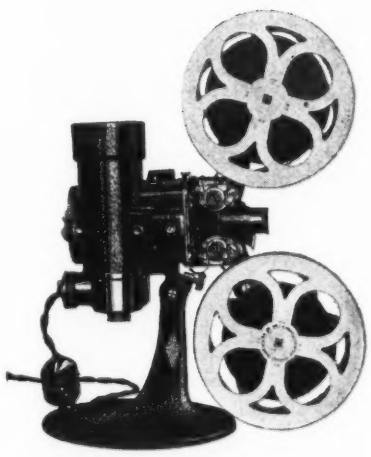

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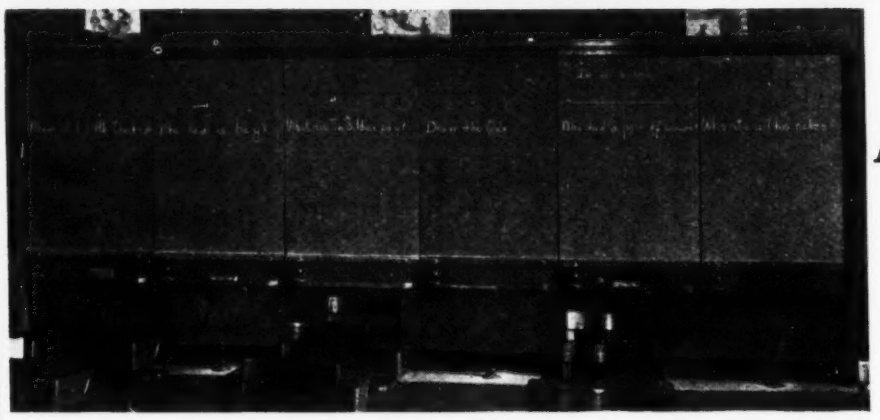

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(Continued from Page 84)

Indiana. All doors shall open outward, and where outside double doors or stormhouses are provided, the other doors shall be devoid of fastenings and shall be held in place by spring hinges.—Indiana 1915, p. 4.

Maine. Every schoolhouse of more than one story in height and every schoolroom therein, shall have all doors, intended for egress, open outwards.—Maine — Chap. 30, Sec. 37, P. L. 1916.

Maryland. All entrance doors to open out.—Maryland 1926, C 2.

Minnesota. All outside doors and vestibule doors must swing out.—Minnesota 1928, Sec. 36.

New Jersey. In any schoolhouse of two or more stories in height, the doors leading from the classrooms to the corridors and from said corridors to the street or to the ground surrounding such schoolhouse shall open outward. All swing doors shall have plate-glass windows of suitable dimensions (Swing doors are construed to mean single and double acting doors).—New Jersey 1925, Sec. 52.

New York. All exit doors, auditorium, assembly hall, and gymnasium doors shall swing outward.—New York 1925, p. 11.

North Dakota. All outside doors . . . . must swing out.—North Dakota 1926, p. 11.

Ohio. All means of egress from the building shall be by exit doors placed in exterior walls and swing outward only.—Ohio 1926, Sec. 12600-55.

Texas. All outside doors . . . . shall be so hung as to open outward.—Texas School Building Law 1913, Sec. 12.

Utah. Every exit door shall be swung outward or towards the natural means of access, and so hung that it will not block any part of the required width of any doorway, passageway, stairway, or fire escape.—Utah 1927, Chap. II.

Virginia. All exit doors must open out.—Virginia 1928, VI (b).

4. Automatic Exit Latches

Delaware. Exit doors shall be provided with panic bolts so that they can be locked from the outside only.—Delaware 1927, p. 18.

Indiana. Entrance and exit doors shall be equipped with automatic opening device and with hardware of such kind as to be always unlockable from within.—Indiana 1915, p. 4.

Maryland. All entrance doors . . . with anti-panic hardware. It should not be possible to lock any door so that it could not be opened from the inside.—Maryland 1926, C 2.

Minnesota. All locks used on vestibule and outside doors, in buildings of four rooms or more, must be of such construction that they open readily from the inside without the use of keys (Sec. 36). All doors to school buildings containing four or more schoolrooms must be provided with automatic exit latches. (Sec. 90.)—Minnesota 1928, Sec. 36, 90.

National Fire Protection Association. Exterior doors shall be operated by bars or other panic hardware device. Single leaf doors rather than double are recommended because hardware now available is more satisfactory for single than double doors. If glass is used in doors it shall be wired glass. Bar or other panic hardware devices shall be of types that are applied to the surface of the door. The bar or releasing device should extend for three quarters of the width of the door at the latch side. The bar or releasing device should have a projection of not more than 3½ inches from the face of the door and the space between the bar and the door shall be closed or filled with solid panel allowing not more than one inch between the back of the panel and the surface of the door. Upon this panel should be engraved or embossed in large letters—PUSH.—Nat. Fire Protection Ass'n. 1929, Sec. 2134.

New Jersey. All outside entrance or exit doors shall have key locks, that can be locked on the outside only, but that can always be easily opened on the inside by simply turning the knob or pressing the release bar. No night-latch attachment, bolts, hooks, thumb knobs or other locking device is to be used.—New Jersey 1925, Sec. 53.

New York. Panic bolts must be used on all double doors.—New York 1925, p. 11.

Utah. Exit doors shall be so equipped with hardware that they can be opened from the inside without a key, by pushing a bar or plate or turning a knob or handle. They shall not be locked, barred, or bolted at any time while the building is occupied.—Utah 1927, Chap. II.

Virginia. All exit doors . . . . must be provided with hardware that will make it impossible to so lock the door that it cannot be opened from the inside at all times.—Virginia 1928, VI b.

5. Miscellaneous

Connecticut. Main exits should provide free movements of pupils from corridors through doors, unrestricted by dead ends. All exit doors should be glazed.—Connecticut 1926, p. 11.

Delaware. All exits shall be free from outside obstruction. . . . Steps at exits shall be as few as possible, preferably nonexposed, composed of stone or concrete with a non-slipping surface, risers not to exceed seven (7) inches in height and treads shall not be less than twelve (12) inches in width (including nosing). . . . Door checks and foot stops shall be provided (foot stops shall not be capable of holding doors in closed position). Outside doors shall not be less than three by seven (3 x 7) feet each.

Indiana. Revolving doors shall not be used. . . . . All entrance and exit doors shall be unlocked at all times when school is in session.—Indiana 1915, p. 4.

Maine. Any building which is used in whole or in part as a schoolhouse shall be provided with proper egresses or other means of escape from fire sufficient for the use of all persons therein accommodated. These egresses and means of escape shall be kept unobstructed, in good repair and ready for use.—Maine 1923, p. 9.

Minnesota. The capacity of each exit shall be computed on a basis of a width of twenty two (22) inches for each one hundred (100) persons for whom the building provides seating capacity.—Minnesota 1928, Sec. 35.

National Fire Protection Association. Exits shall be so arranged with respect to corridors, passages and stair wells that there are no pockets or dead ends in which pupils might be trapped (2156). Exits shall be so located that at least one stairway or other exit will be within one hundred (100) feet (measured along the line of travel) of the

(Concluded on Page 88)

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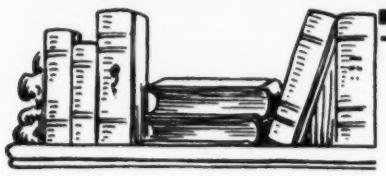

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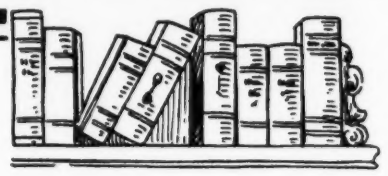

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(Concluded from Page 86)

corridor exit door of every room.—Nat. Fire Protection Ass'n. 1929, Sec. 2157.

New Jersey. Every school building shall have an exit to the ground for every flight of stairs leading to the first floor. All doors leading to the cellar or basement shall be fireproof and fitted with springs to keep them closed, except in one-story buildings.—New Jersey 1925, Sec. 54.

New York. Doors . . . . shall be arranged to facilitate egress and to afford adequate protection in case of fire or accident. . . . Assembly rooms and gymnasiums shall have one or more emergency exits opening directly out of the building. Where playrooms, shops, or other rooms used by pupils are located in a basement, there shall be one or more exits from the basement, easy of access and independent of stairway exits.—New York 1925, p. 10, 11.

Ohio. Exit doors . . . . shall be so hung as not to interfere with passageways or close other openings. No single door or leaf to a double door shall be more than four (4) feet wide. No two doors hinged together shall be used as a means of ingress or egress. Accordion doors may be used in dividing classrooms, providing the free sections swing outward and give the required amount of exit width. No double acting, rolling, sliding or revolving exit or entrance doors shall be used.—Ohio 1926, Sec. 12600-60.

Utah. The number and location of exits shall be such that in case any exit or passageway is blocked at any point, some other exit shall be accessible through public passageways, from every room, used by the public.—Utah 1927, Chap. II.

Wisconsin. The number and location of exits shall be such that, in case any exit or passageway is blocked at any point, some other exit will still be accessible, through public passageways, from every classroom and from every other room used by the public or the occupants generally.—Wisconsin 1925, Order 5606.

TEACHERS' SALARIES

—A campaign has been started at Columbus, Ohio, for increases in teachers' salaries. The movement which is being sponsored by the teachers' federation, calls for an increase of $100 a year for elementary teachers; $125 a year for high-school teachers, and $250 for principals. The present salaries range between $1,800 and $2,000 a year for elementary teachers; $2,200 to $2,400 for high-school teachers, and $4,000 for principals.

Another proposal before the school board is the proposed janitors' pension fund. The plan calls for the payment of not less than one tenth of one per cent, nor more than one fifth of one per cent, of the total revenue collected into the fund. The remainder of the fund is to be made up of contributions from the janitors' salaries.

—New York, N. Y. Public school and teachers' retirement board officials have made a study of the teachers' records to determine how many thousand teachers will be effected as a result of a court ruling which stopped the giving of credit toward salary increase and pensions for nonteaching service. Included in the list are clerical assistants and teacher clerks, high-school teachers of commercial or trade subjects, teachers in vocational or trade schools, dressmaking, millinery, and all other teachers who claimed credit for service in any business or trade.

It is conceded that salaries fixed on the basis of nonteaching experience must be reduced by the number of increments represented by the years of nonteaching service allowed. Teachers receiving the maximum will probably be held not to be affected, especially if their years of teaching service would entitle them to the maximum pay. All other teachers will have their salaries reduced by the number of years of teaching service credited for nonteaching service.

In the particular case before the court, the teacher was allowed two years' credit for seven and one half years' business experience. This the court decision has annulled.

—Newton, Iowa. The school board has adopted the recommendation of the superintendent, providing for the elimination of the beginners' salary known as the A class of teachers, or those just starting in the profession, from $1,100 to $1,050, and cutting the salaries of D teachers, or those with masters' degrees, from $1,350 to $1,300.

CHARLESTON, ILL., ADOPTS TEACHERS' SCHEDULE

—The school board of Charleston, Ill., has raised the maximum salary of elementary teachers $3 per month. Under the new schedule, teachers are divided into three groups, namely, teachers of grades one to six, teachers in grades seven to eight, and high-school teachers.

Teachers in the first group, who are graduates of the normal school, but without experience, will begin at a minimum of $95 and will advance to $98 the second year, $101 the third year, $104 the fourth year, and $107 the fifth year. Teachers with experience will begin at $98, and will advance to $101 the second year, $104 the third year, and $107 the fourth year.

Nongraduates of the normal school, without experience, will begin at a minimum of $92, and will advance to $95 the second year, $98 the third year, $101 the fourth year, $104 the fifth year, and $107 the sixth year. Teachers with experience will begin at $95, and will advance to $98 the second year, $101 the third year, $104 the fourth year, and $107 the fifth year.

Teachers in the second group, who are graduates of the normal school, but without experience, will begin at $107, and will advance to $110 the second year, $113 the third year, and $116 the fourth year. Teachers with experience will begin at $110, and will advance to $113 the second year, and $116 the third year.

Nongraduates of the normal school in this group, without experience, will begin at $104, and will advance to $107 the second year, $110 the third year, $113 the fourth year, and $116 the fifth year. Teachers with experience will begin at $107, and will advance to $110 the second year, $113 the third year, and $116 the fourth year.

High-school teachers, without experience, will begin at $140, and will advance to $145 the second year, and $150 the third year. Teachers of experience in this group will begin at $145, and will advance to $150 the second year. Women science teachers will begin at $150, and will advance to $155 the second year.

The schedule provides that $1 shall be added to the monthly salary of any teacher who successfully completes a six weeks' summer course.

—Cumberland, R. I. The school board has adopted a recommendation of Mr. Robert Caldwell, a member, providing for the checking of the time of workmen employed by the school department by the principals.

Under the new plan, each workman will be given a printed card at the time he begins work. When he leaves work in the evening the card is presented to the principal who makes a notation of the time. A duplicate card is retained by the principal upon which the time is also noted. During the vacation period, when the schools are closed, the cards will be made out by the janitor or other school executive.

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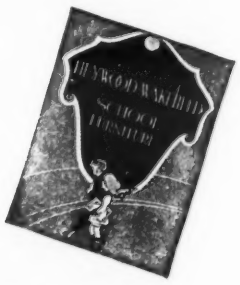

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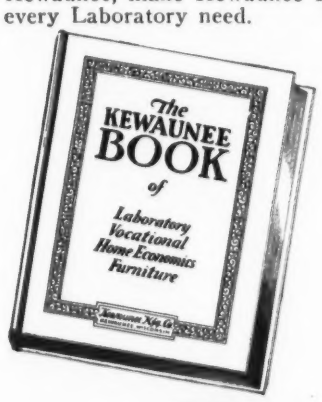

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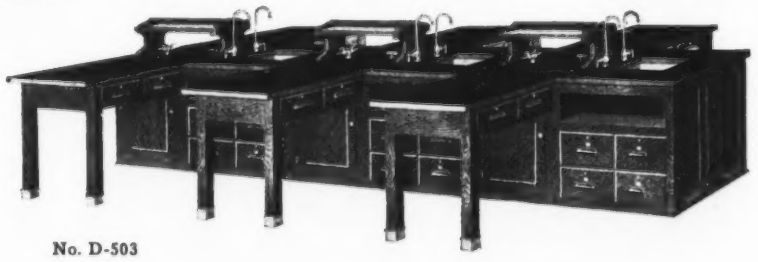

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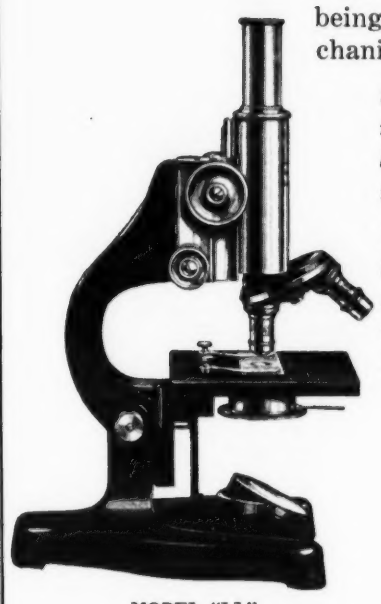

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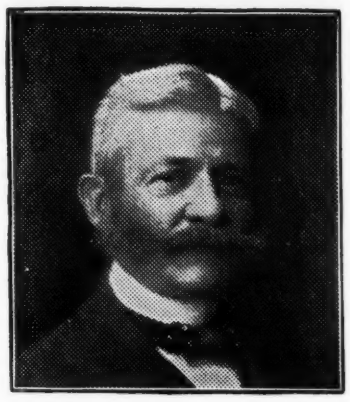

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Playgrounds Do Not Reduce Land Values

A study of the effects of playgrounds on land values of properties "bordering on" and "adjacent to" playgrounds in Brooklyn, N. Y., and Orange, N. J., shows that playgrounds do not reduce land values of surrounding property, and that in many cases the value of the land increases. The study was made by Mr. Jacob W. Feldman as a thesis for a master's degree in the school of education of New York University, and was published in a recent issue of Playground.

Under the method of procedure, a complete list of the playground was compiled, showing their sizes, equipment, and location. Each playground was visited and a study made of the conditions and the use to which the surrounding land was put. The district around the grounds was studied to determine the kind, type, and use of the surrounding land, and to indicate whether it was residential, business, manufacturing, or tenement district. A study was also made of the history of the land development of the various sections and the factors which might affect the land value of the adjacent property.

As a result of the study, it appears that there has been a high increase in land values in Brooklyn during the period from 1909 to 1928, amounting to 166.7 per cent. In Orange, there has been no real-estate boom and the market fluctuates very little. The situation, as regards the playgrounds, is rather unusual, for four of the five playgrounds have been donated to the city. They were fully equipped, landscaped, and fenced before they were presented.

In the study, the determining factor in the effect of playgrounds on land values was the use to which the land surrounding the playground was put. It was noted that the increase in land values of the surrounding property is greatest in the case of those playgrounds located in the "highest class" residential districts, and that the extent of the increase in land value diminishes as the district decreases in desirability for residential purposes, until in the "poorest class" district there is no change in land value. In general, three main classifications of districts were utilized. First, there was the "high-class" residential district, consisting of one and two-family detached homes, and the better type of apartment houses; second, there was the "medium-class" residential district, comprising the better type of tenement houses and one and two-family homes; and third, there was the district of the "poorer-class" tenement houses in the business and industrial area.

In the first type of district, the increase in land values in percentages for the playgrounds was as follows:

Name of Playground	Bordering on Per Cent	Adjacent to Per Cent
McKinley	158.0	162.0
Central	170.8	95.8
East 14th St. and Ave. S.	102.0	88.0

In the second type the total percentage of increase in land values for the period studied was as follows:

Name of Playground	Bordering on Per Cent	Adjacent to Per Cent
New lots	68.0	103.0
McLaughlin	72.7	58.99
Metcalf	60.5	40.5
Ropes	53.0	53.8

In the third type the total percentage of increase in land value for the period studied was as follows:

Name of Playground	Bordering on Per Cent	Adjacent to Per Cent
City	72.4	87.3
McKibben	20.6	42.4
Colgate	27.2	4.6
McCarren	9.0	51.8
Lindsay	0.0	6.8
Greenpoint	0.0	0.0

The study showed that the playgrounds having the greatest effect on land values were those located in the "high-class" residential district, and that those having the least effect were located in the "poorer-class" district. It was noted that there is a wide variation in the percentage of increase in land values. In the case of five playgrounds, the "bordering on" property showed a greater increase in value than the "adjacent to" property. Three playgrounds showed practically an even percentage of increase for both types of land, while five showed a greater increase of value for the "adjacent to" property. It was noted, in Brooklyn and Manhattan, that small plots of ground had little effect on the surrounding land values. But in Orange, a different effect was noticed in playgrounds of approximately the same size. In the case of one playground, the "bordering on" land values had not been increasing as fast as the city or district as a whole, but as soon as the playground was opened, the percentage of increase in land values was pronounced and far greater than that for the city or district. The increase in land values was clearly due to the opening of the playground in the opinion of real estate men.

Conclusion

As a result of his study, Mr. Feldman came to the following conclusions:

a) Where playgrounds are located in residential districts, the "bordering on" property values show a greater percentage of increase than the "adjacent to" property.

b) Where playgrounds are located in business districts, the "adjacent to" property values show a greater percentage of increase than that of the "bordering on" property values.

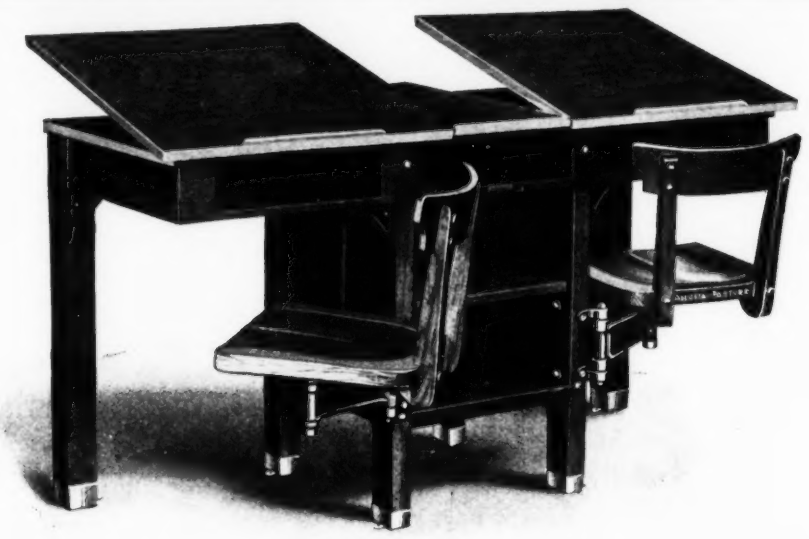
c) Playgrounds do not effect a decline in land value of the "bordering on" and "adjacent to" property after the playground is established.

d) Playgrounds show the greatest effect on percentage of increase in land values, when located in a residential district; the "higher class" the residential district is, the higher the percentage of increase.

e) When business and industry invades the property, "bordering on" and "adjacent to" a playground, the benefit of the playground as shown in the land value is much decreased.

f) The effect of playgrounds on the surrounding property values depends on the uses to which the land is put.

The board of education of Montgomery county, Indiana, has refused to permit the teachers of that county to attend the Indiana State Teachers Association meeting at Indianapolis. The board held that the convention had "degenerated into nothing more than a shopping tour." "There is a lot of truth in this view," says the New Castle, Ind., Courier.



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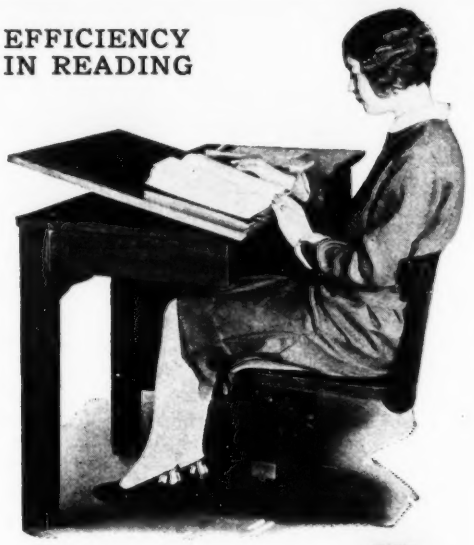

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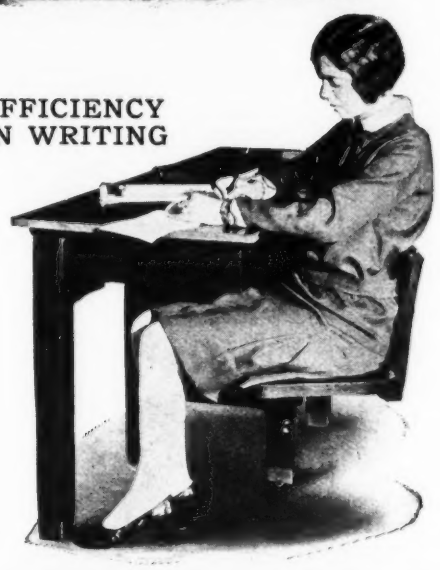

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g) The factor of the size of the playgrounds does not affect the relative increase of the land values of "bordering on" and "adjacent to" property.

h) Small plots of land used as playgrounds do not appear to affect the land values in Brooklyn, but they appear to have a decided effect on land values in Orange, New Jersey.

i) Parks changed to playgrounds do not cause a decline in land value of the property.

j) Where there is a good deal of surrounding vacant land, playgrounds do not appear to affect the land values.

k) A playground should be bordered on all sides by residential streets in order to have the greatest effect in increasing land values.

l) The conclusions do not mean that they apply in all cases, but it is true that they do apply to the playgrounds which have been studied.

SCHOOL ADMINISTRATION NOTES

INDETERMINATE TERM PROTECTION OF SCHOOL JANITORS IN NEW JERSEY

Under a ruling of the attorney general of New Jersey, the statutory protection conferred by the school law upon public-school janitors is personal in nature and therefore capable of being waived by any janitor who accepts an appointment for a definite term. The ruling has given rise to a number of inquiries and to some controversy as to what is considered a definite term of janitorial employment, and hence a waiver by a janitor of any statutory protection following the expiration of an indefinite term.

In the case of Elwood Clayton vs. the Matawan Township Board of Education, on which a ruling was recently given by the State Commissioner of Education, it was contended by the respondent that the fixing of the appellant's compensation at the time of his original appointment at $1,200 a year limited his employment to one year. In a number of states, including New Jersey, court decisions have held that the stipulation in a contract or resolution of appointment of compensation at a given amount per annum has limited the employment itself to that period. These decisions have been rendered, however, only in those cases where in the absence of any statutory protection conferred upon the incumbent, or of any other evidence in the contract of an actual term, the court has had to rely upon the prescribed method of compensation as the only means of determining the period of employment. Where, however, the law has conferred protection upon the incumbents of public positions or offices, the courts have not interpreted as waivers any contract stipulation as to compensation, but have held that such a waiver existed only upon the most definite stipulation in the employment as to term. The decision of the Commissioner of Education in the Clayton and Matawan case held that the statutory indeterminate term protection of a school janitor could be considered as waived either at the time of his original employment, or later by his own agreement to the most definite stipulation as to term, and not by any mere provision in his appointment as to the method by which his compensation was to be paid.

In his decision, the Commissioner called attention to section 381, page 22 of the school law, which authorizes boards of education to "make such proper rules and regulations as may be necessary for the employment, discharge, management, and control of the public-school janitors employed by such board not inconsistent with the provisions of the law." The law reads in part as follows: "No public-school janitor in any municipality or school district may be discharged, dismissed, or suspended, nor shall his pay or compensation be decreased, except upon a sworn complaint for cause and a hearing before such board."

Continuing, the Commissioner said: "It is clear that the statutory provision is plainly intended to confer tenure protection upon a public-school janitor from the time of his appointment to extend indefinitely, unless specifically waived by the janitor's acceptance of a definite term appointment. Almost invariably, there is contained in the appointment of a janitor by a board of education a stipulation that the compensation is to be given at so much per year, or is to be at the rate of a given amount per year, and if such a provision is to be officially deemed to fix the employment at one year, then the protection conferred by the statute is valueless, except for a very limited term in every instance."

Attention is called to a law providing for protection in public office of veterans of the United States military service, which is similar in phraseology to the public-school janitor law, but the cases holding that the protecting of such law has been waived by the acceptance of a definite term contract all show definite limitations as to the duration of the term. For instance, in the case of Hardy vs. Orange, reported in 61 N.J.L. 620, in which it was held that protection had been waived, it appears that the prosecutor, a discharged Union soldier, was appointed keeper of the reservoir for the period of one year from that date at an annual salary of $540. In the case of Horan vs. Orange, 29 Vroom, 533, in which a similar ruling was given by the court, the public-school janitor, also a war veteran, was first appointed by the board of education on June 23, 1893, for a period of one year from the first of July next, and was reappointed by the board on June 26, 1894, for the year ending July 1, 1895. In both cases, it was held that the contract of employment which constituted a waiver by the employee of the tenure protection conferred by the statute, contained very definite limitations as to term.

In the case of DeBolt vs. Mount Laurel Township Board of Education, the state board of education held that the janitor by his several contracts of employment had waived indeterminate statutory protection, but the conclusion was not based upon any contract provision as to payment of compensation, but upon the fact that the appellant had applied for employment for one year, or for a full term of ten months.

HELPING POOR SCHOOL DISTRICTS

"Adequate educational opportunities and facilities should be available to all, but as a matter of fact, there is a wide difference in the educational opportunities offered in the 7,000 school districts of this state," said Governor Walter J. Kohler of Wisconsin in a public address recently.

"We have many schools that are too small to make possible the most effective kind of work. According to the last figures I have seen, there are over 1,400 one-room schools with an enrollment of 15 or less.

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(Continued on Page 94)

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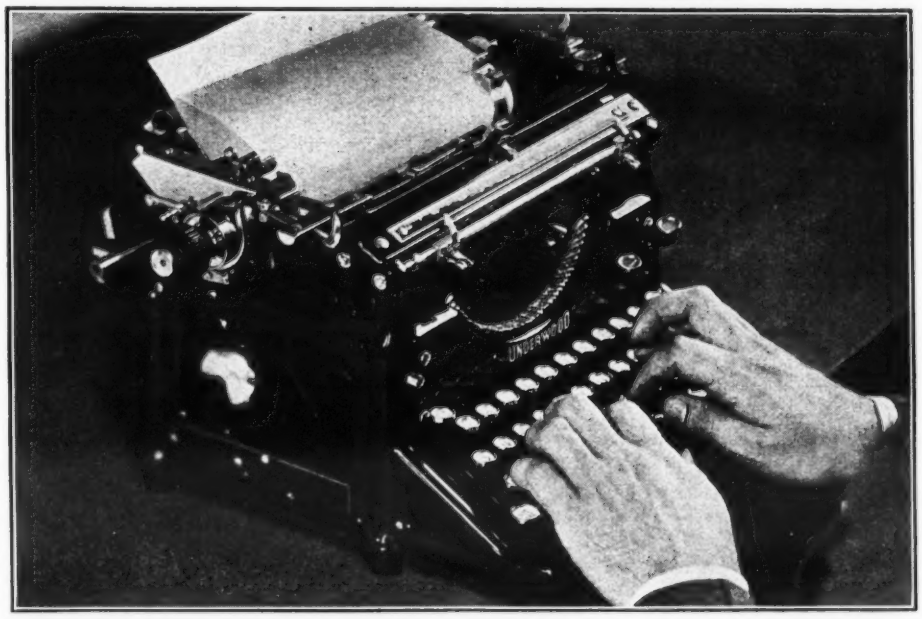

These are the fastest fingers in the world!

They are the miraculously nimble fingers of Mr. George Hossfield, World's Champion Typist, who has staged a remarkable comeback. Saturday, Sept. 28, at Massey Hall, Toronto, he typed for one solid hour at the astounding rate of 135 net words per minute—more than 11 strokes per second!

No other fingers achieved such lightning-swiftness combined with such bull's-eye accuracy.

It is natural that the new champion's fingers—*and the fingers of every other World's Typewriting Champion*—have leapt into fame from the keys of the Underwood. No other typewriter can match its records for speed and accuracy.

Year after year, in contest after contest, it has been put to the most grueling tests imaginable by the fastest typists known—and the Underwood has never failed them.

UNDERWOOD
TYPEWRITER COMPANY
Division of Underwood Elliott Fisher Company
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"Underwood, Elliott-Fisher, Sundstrand—Speed the World's Business"

UNDERWOOD
THE MACHINE OF CHAMPIONS

If You Were a Student..!

And your teacher had an Alternator, you would probably work "extra hard" so teacher would let you write on her very own blackboard. Little boys and girls do enjoy working at this new kind of blackboard. The Alternator is most useful for the teacher's needs but it is also very useful for the students. (See illustration).

The Alternator is a huge swinging blackboard book of eight pages. It solves many school room problems. Install the Alternator in order to have two divisions in one room if necessary. Provide a center of interest for the children. Use the Alternator for exhibition work and examinations.

Investigate the Alternator. It can be adjusted to the teacher's height. The Alternator way is the "Better Way" to equip modern schools. Send for illustrated catalog A-4.

K-M SUPPLY COMPANY
119-123 West Eighth St. Kansas City, Mo.

(Continued from Page 92)

cannot afford the educational facilities which the more prosperous districts provide.

"One remedy of this condition is consolidation of schools, which creates larger assessment units, and consideration should be given to the development of county school systems to replace the smaller district systems."

HIGHER STANDARDS FOR SUPERINTENDENTS

Higher qualifications required of rural-school superintendents are improving the standards of rural-school education. This statement was recently made by Mrs. Katherine M. Cook of the United States Office of Education. She says:

"One of the serious handicaps of the rural-school superintendency is that it lacks a recognized professional status independent of local and state boundary lines. Other superintendencies long ago progressed beyond this provincial outlook. City boards of education seeking a superintendent are as apt to go out of the state as within it to find the person best qualified in their opinion for the position. The practice has become so common that illustrations are unnecessary.

"State boards of education, and governors having power to appoint state superintendents are beginning to follow a similar practice. When rural-school superintendents of recognized ability are invited to accept similar positions as a recognition of successful achievement without the state and local boundary limitations, a long step will have been taken in making the rural superintendency a more satisfying and appealing career."

OHIO'S SCHOOL-BUS SERVICE

"Transportation to and from school must be furnished for elementary-school pupils who reside more than two miles from the school to which they are assigned, or the parents or persons in charge of such pupils paid for transporting them."

So ruled the attorney general of Ohio recently. He continued: "The law requiring transportation to and from school, of elementary-school pupils who reside more than two miles from the school to which they are assigned, is satisfied if the conveyance is made to run within one-half mile of a pupil's residence or the private entrance thereto.

"If a conveyance for the transportation of elementary-school pupils to and from the school is not made to run within one-half mile of the residence, or the private entrance thereto, of a pupil who lives more than two miles from the school to which he has been assigned, transportation, in the sense contemplated, is not being furnished, and the parent or person in charge of the pupil may furnish transportation for the pupil, and recover from the board of education for such transportation in accordance with section 5531 of the general code.

"The statutory requirement that boards of education of rural and village school districts shall transport to and from the schoolhouse, pupils of the district who live more than two miles from the nearest school in the district in which they reside, does not require that such transportation be furnished to children living in the district who are attending a nearer school in another district, and mandamus does not lie to compel provision of such transportation."

ADMINISTRATION NOTES

—A new system of school records has been installed in the school system at Tonopah, Nev.

—Harrisburg, Ill. Acting upon orders of Supt. Roscoe Pulliam, the principals of the several schools have discontinued the practice of having children form lines and march to and from classrooms. The practice was discontinued because of its similarity to "prison" lines.

—The seven-year curriculum, which was introduced in the schools of Kansas City, Mo., sixty years ago, is no longer an experiment. Studies have shown that the number of years necessary for graduation from the elementary school have been reduced from 8.3 years to 7.4 years in the Kansas City schools. It has been shown that 98 per cent of the seventh-grade graduates of Kansas City enter the high school, as compared with 45 per cent for the nation at large. The scholarship of the students in college or university ranks well with that of the graduates of twelve-year systems.

—The Roger Williams Park Museum and the city of Providence, R. I., have announced a new school service, "visual aids," which is available for all schools. The Museum offers the great wealth of its collections. The following types of "visual aids" are available for the asking, to be loaned to schools: Mounted specimens, unmounted specimens, lantern slides, photographs, charts, maps, industrial processes, products of other countries, and a few motion-picture films.

The service is in charge of Mr. William L. Bryant, director of the Park Museum, and Mr. Henry E. Childs, of the Providence public schools.

—A commission to study the Indiana joint and consolidated schools has been appointed by Governor Leslie. The commission will comprise Mr. F. S. Moore, West Lafayette; Mr. Richard Park, Sullivan; Mr. W. E. Treanor, Bloomington; and Mr. B. F. Long, Logansport. The commission will undertake a study of the number, condition, organization, control maintenance, and general efficiency of the joint school districts and consolidated school districts of the state. It will codify and correlate the existing laws applicable to these districts, and will recommend other needed legislation. A report of the findings of the commission will be issued in September, 1931.

—A writer, D. H. Pierce, holds that the prestige and standing of the school system of Cleveland, Ohio, is due to: 1. A nonpartisan, nonpolitical control through the board of education. 2. Loyal support of the public, especially through such organizations as the Parent-Teacher associations. 3. A living wage for teachers, ranging from $1,200 for the untried elementary teacher to as much as $3,500 for the high school department head with many years of experience and a master's degree. 4. The extent to which Cleveland has gone in adapting education to the needs of the individual.

—The U. S. Commissioner of Education has announced that the governor of Alaska, will hereafter have charge of the reindeer of Alaska. This work has been the responsibility of the Office of Education for nearly forty years, and has been cited as an example of the curious duties assigned to certain officials in Washington.

—National Child Labor Day will be observed in the schools of the United States on January 26. The National Child Labor Committee, which is sponsoring the observance, offers to furnish leaflets, posters, and suggestive programs to any school official upon request. All inquiries should be addressed to the National Child Labor Committee, 215 Fourth Ave., New York City.

—The student body of the high school at Anacortes, Wash., has adopted a constitution which calls for a council composed of two representatives from each class, three representatives elected at large, two faculty members, and one school-board member. The council meets twice each month and not only takes care of business affairs, but also participates in the major disciplinary problems of the school.

The students have welcomed the opportunity to come into closer touch with the board members, and the board members have been able to obtain a better appreciation of the problems of the high-school students. Under the constitution, a veto power is exercised by the principal and the superin-

(Concluded on Page 96)

L C Smith Operators Win Many Championships

A GREAT many schools are equipped with L C Smith typewriters because of their mechanical perfection. During the past year L C Smith operators have won amateur contests in state, district and sectional groups. New records for speed and accuracy have been established.

The young man shown above established a new State Contest record of 104 net words per minute. This is the highest school rate in the United States.

L C Smith typewriters give speed and stand up under the hardest kind of wear. The touch is smooth. There is no jamming of type bars due to ball bearing construction throughout. Also the constant lifting of a heavy carriage is eliminated because the type bars move down instead of the carriage moving up. A five key inbuilt decimal tabulator is included as standard equipment.

L C Smith typewriter has demonstrated its efficiency as a machine made for instruction and school work.

L C Smith & Corona Typewriters Inc

School Department, Syracuse, N. Y.

KIMBALL

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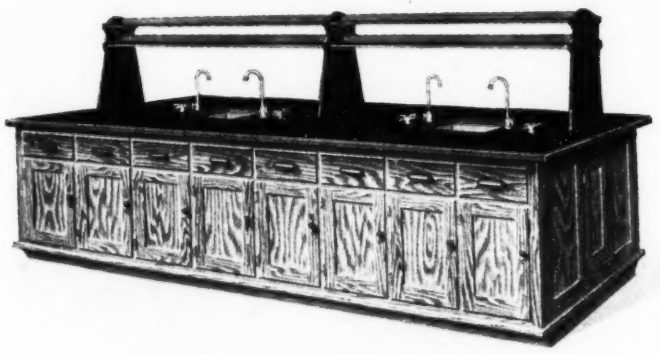

STUDENT'S CHEMISTRY DESK NO. 550

DOMESTIC SCIENCE DESK NO. 2000

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Division of Laboratory and Vocational Furniture

A. E. Kaltenbrun
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Superior Seating Co.
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(Concluded from Page 94)

tendent of schools on any acts passed by the council, and there is no provision for passing over the veto.

—Pasadena, Calif. At the Washington Junior High School, eight girls have been selected to act as the board of uniform dress. This board has the power to try cases of violation of the uniform rules.

—Owing to an athletic dispute, 100 high-school students at Marinette, Wis., walked out on a strike. The students were persuaded by Principal W. B. Senty to return to the school. The two strike leaders were suspended indefinitely.

—The uniform marking of school busses is fostered by the Wisconsin Teachers' Association. The recommendations grow out of the fact that accidents have occurred because the school buses were not known as such. These vehicles are hereafter to be of uniform color and design.

—The all-year school plan is denounced in a tentative report by the Teachers' Council of New York City. "It is not an improvement over our ten months' school year supplemented by our elastic voluntary summer school system and summer playgrounds," says the report. "Our summer schools provide every need for study without affecting the school program of the rest of the year."

—The question of giving preference to "home-talent" teachers, has been raised at Indianapolis, Indiana. The editor of the Star of that city says: "Where the training and ability of two are apparently equal, the one who resides in the city is entitled to the preference. She presumably has attended the local school and her parents have been taxpayers. Her interests are centered in the community."

—The board of education of Lewiston, Idaho, has created a number of administrative offices, including a vice-principal of the high school, a dean of girls for the junior high school, and vice-principals for the elementary schools.

—Twenty-five years ago Cincinnati, Ohio, had a school board of 26 members elected by wards. A school-board election in those days was as much a matter of politics as was the election of an alderman or mayor. In the course of time the board was reduced in membership and elected at large. Since then, the board of education has been free from politics and has enjoyed exceptional progress. The cost of running the schools has mounted practically without a break for many years. In 1919, the schools received $2,839,319.65 from taxation. The school budget for 1929, ten years later, calls for $7,626,036.12. The public loyally supports the board in all its projects.

—The use of the radio, motion pictures, and talking pictures were recently advocated at the meeting of the Associated School Boards and Trustees of New York, which was held at Troy. President R. S. Jewett regretted that the state department of education has failed to make use of the radio and he urged that it take the lead in preparing films and advocating their use in the schools. Mr. Jewett has expressed his approval of the moving picture and the talking picture and holds that a child will grasp new ideas much more quickly and retain them better through the use of this new device. He pointed out that there are now excellent films covering many of the regular school subjects, and he urged that the state department begin the preparation of films for general use in the schools of the state.

CHATS DURING RECESS

Says the Boston Post: "Do we all realize just what a big man the school janitor is? The teacher may be the queen of the schoolroom, but that functionary, the janitor, is certainly her prime minister. He it is who keeps things running, and from September until May he is a very important man, indeed, with the comfort and health of all the scholars intrusted to him. A poor janitor can make a schoolhouse in winter a place of snuffles, colds, and absences at home; or he can produce a place where even temperatures, good ventilation and therefore peace and contentment—and the advancement of learning—reign."

News Item: The Wood River school board (near Alton, Ill.) which is working until long past midnight at every meeting the board holds, is an example of devotion in public servants. School boards, it may be told for the purpose of information, are forbidden to take any compensation at all for their work, but that does not signify that they are slackers in their work. The Alton school board in its career of school building had many a late session and many a session at irregular hours, but certainly had nothing on this Wood River board which thinks nothing unusual of a 1:30 a.m. adjournment. The board could adjourn much earlier if it did not believe it should know all about its business affairs, better than anyone else.

MENTAL HEALTH OF TEACHER

The teacher should be an experimenter. The good teacher realizes that there is no closed system. He experiences divine discontent. He finds pleasure in his success and always that intriguing bit of dissatisfaction which urges him to blaze new trails and thus come to closer grips with his problem. His zest for his work is his pupil's inspiration. — J. Mace Andress.

Says the Journal-Courant of Lafayette, Indiana: "Reform has hit Indianapolis with a real 'plop.' The school board bought $220 worth of cockroach powder for one school building. So tremendous was the emergency that the contract for the insect powder had to be divided in two sections so as to avoid getting in a jam over letting the big contract without advertising for bids. Not only 'plenty' of powder, but some particular agent's particular powder was needed in a most urgent hurry. At $220 a building it is going to cost Indianapolis some $22,000 to eliminate cockroaches from the educational system. And when that is done there will still be the political cockroaches to be driven out."

The Cleveland, Ohio, Press says: "Teaching by radio, it can't be done. Passing out information, telling stories, or repeating a record, that might be done by radio. But those are only small aids to teaching. When the Cleveland board of education announces that it is going to use radio for teaching, we suppose it means that it is going to provide aids to teaching. Teaching is the process of finding something in Johnny's mind upon which something else may be hooked. It is like the process of buttoning a shoe. Teaching is the buttonhook which connects the button with the buttonhole."

This is the way the Parma, Mich., News puts it: "Members of the board of education may know more about running a school system than an athletic plant — we hope they do. But they sure 'pulled a boner' when they plowed up the local football field to make it level. It's quite level now, and looks fine from the spectator's point of view. But it's terrible for the players. Today the grid men, if they used the field, could not be seen for the clouds of dust they would kick up in a scrimmage. And if they should have a game in wet weather the slimy, slippery condition of the ground would make their carefully practiced plays look like the antics of a bunch of clowns."

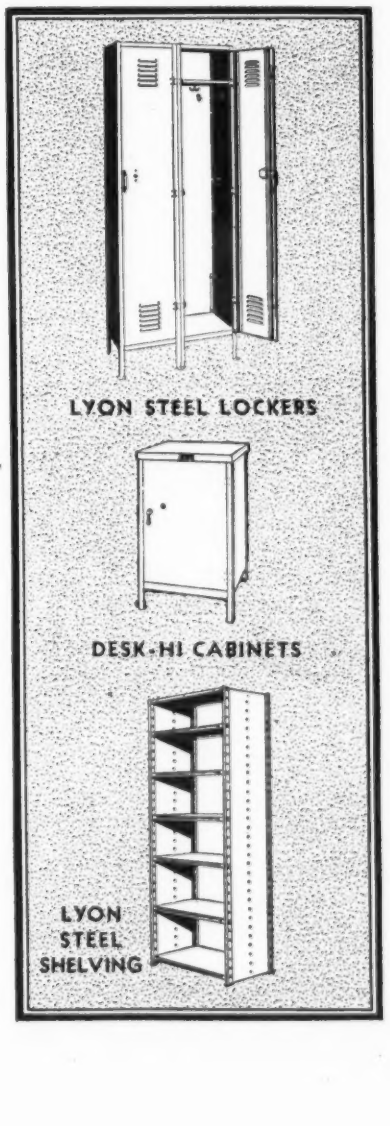
THE NEW LYON STEEL FOLDING ARM CHAIR

Note the Feet!

The rubber feet can not come off or be pulled off. Tightening the expansion bolt A (deeply countersunk into solid rubber mushroom foot) compresses rubber shank B tightly against leg C

This is the *only* steel folding chair with arms—astonishingly comfortable, strong and rigid, yet light in weight and easy to handle. Like the standard Lyon steel folding chair, it is built to give long years of service in assembly room, lecture hall, gymnasium, or wherever the *comfortable* seating of people is an occasional problem. It is quiet to operate and safe in use. Rubber feet are put on to stay. (See drawing.) Patented hinges prevent pinched fingers or clothing. Finished in a variety of colors and upholstery. . . . Lyon has a nation-wide prestige among schools for its durable and efficient storage equipment in steel. For years it has been supplying lockers, cabinets, gymnasium basket racks, shelving and other products to institutions from coast to coast. Write us for complete information on the new Lyon Folding Arm Chair or any of your requirements in storage equipment. There is a Lyon representative near you ready to serve.

LYON METAL PRODUCTS, INCORPORATED, *Aurora, Illinois*



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STEEL SCHOOL EQUIPMENT

LOCKERS CABINETS SHELVING COUNTERS

LYON METAL PRODUCTS

FOLDING TABLES BASKET RACKS AND CHAIRS

The secret of good pictures—

MOTION pictures have found their place among the facilities of the modernly equipped school. Getting good pictures—clear, well defined—is not simply a matter of procuring a projector and a screen. Motion picture projection has its fundamental rules that must be carefully considered in relation to each school auditorium. These problems with their special application to school use, are discussed in a new booklet, "Motion Pictures for the School Auditorium". It's a practical handbook of motion picture projection for the school administrator. Just fill out the coupon below for your copy, or write to: Educational Division, National Theatre Supply Company, 624 South Michigan Avenue, Chicago.

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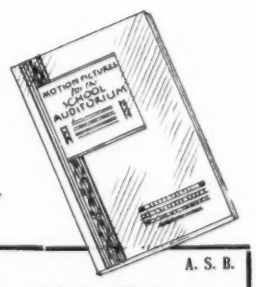
A new booklet is ready!

The various types of projection equipment and screens with their related problems of auditorium design are discussed in this new illustrated booklet... a handbook of projection fundamentals that should be in the hands of every school administrator. Just mail the coupon below for your copy—It's free!



A. S. B.

Please send me a copy of the new booklet, "Motion Pictures For the School Auditorium":

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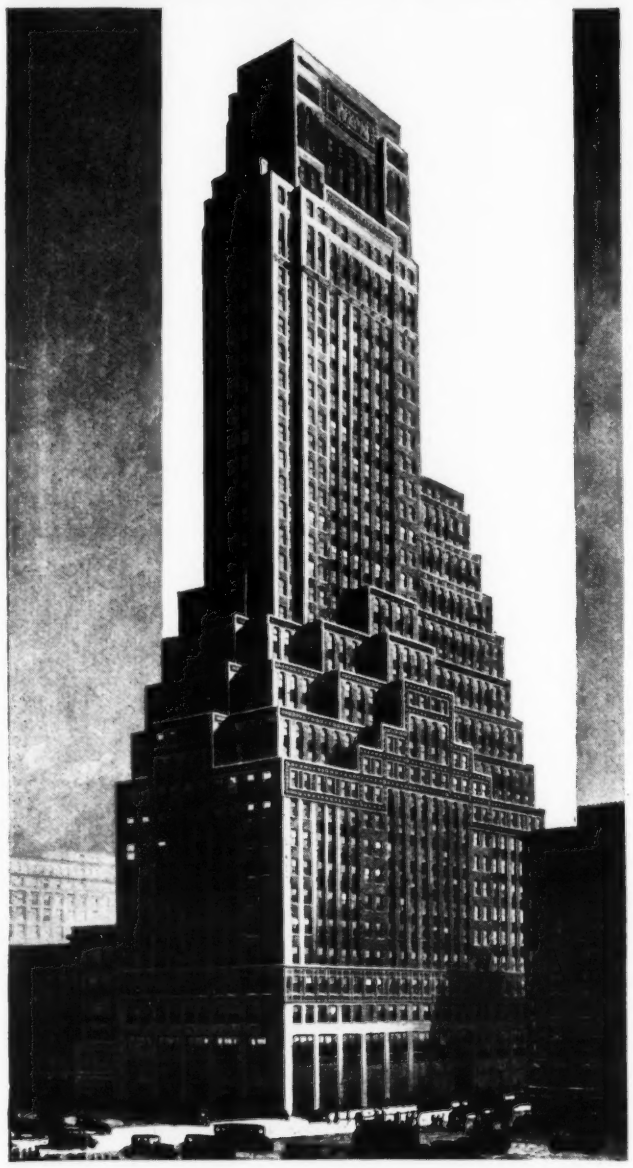

THE FRED F. FRENCH COMPANY CHOSE HARTSHORN SHADES AND HARTSHORN ROLLERS FOR 1759 WINDOWS ▲ ▲ ▲

THIS smart, modern skyscraper, erected by and for the Fred F. French Company, at Fifth Avenue and Forty-fifth Street, New York City, exemplifies the trend of present-day building—and building furnishing.

At the 1759 windows, Hartshorn shades, mounted on smooth-running Hartshorn Rollers, provide quiet, unfailing service . . . The shades are good looking and durable; the rollers noiseless, rustproof, responsive. Hartshorn superiority has been proved over a period of nearly seventy years.

STEWART HARTSHORN COMPANY
250 Fifth Avenue New York City

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Est. 1860
SHADE ROLLERS *and* WINDOW SHADE CLOTH

18 ft. body — seating capacity — 60 children

The NEW DELUXE SCHOOL BUS BODIES

All of the many new features of modern coach work are incorporated in the design and construction of these new models. They are built to meet the requirements of the progressive school board that is interested in securing equipment that will always meet with public approval and appreciation.

For photographs, specifications and prices wire or write

The Fremont Metal Body Co. -- Fremont, Ohio

PER CAPITA HIGH-SCHOOL COSTS FOR TUITION IN NEW JERSEY

The state education department of New Jersey has issued a report on a study of high-school per-capita costs, representing a part of the state survey made each year for state, county, and local administrative purposes.

The report shows that the costs for the school year 1928–29 are determined on two bases, namely, operating costs and operating costs minus maintenance, plus a rental cost of 5 per cent.

The total operating cost of high-school education for the various districts maintaining high schools was obtained by adding the costs of administration, instruction, operation, maintenance, coordinate activities and expenses, auxiliary agencies, and fixed charges. The high-school costs for tuition were obtained by using the operating costs, with the exception of the maintenance costs, plus a 5 per-cent rental charge, based on the original cost of the high-school plant, plus subsequent additions.

The study showed that the median cost for tuition purposes for the 154 districts maintaining high schools other than junior high schools in 1928–29 was $169.93 per pupil in average enrollment. This is an increase of $8.42 over that for 1927–28. There has been a gradual increase in high-school median costs since 1923–24.

The lowest cost for tuition purposes for high schools in 1928–29 was fixed at $87.75 per pupil in average enrollment, as compared with $88.78 in 1927–28. The highest in 1928–29 was $330.42 per pupil in average enrollment, as compared with $337.28 in 1927–28. Fifty per cent of the high-school districts had costs between $137.53 and $207.08 during 1928–29. The variation among the middle 50 per cent of the high-school cost varied not more than $45.25 in 1923–24, while in 1928–29 the variation was $69.55. In 1927–28 the variation was $66.82.

A comparative study of the median costs per pupil in average enrollment in high schools of various sizes for the period from 1925–26 to and including 1928–29, shows that high schools with 1,000 pupils or over, cost more than the other sized high schools per pupil in average enrollment for the school year 1925–26 to and including 1928–29. High schools with an average enrollment of less than 100 pupils exceeded the per-pupil costs of the other size high schools, with the exception of those with average enrollments of 1,000 pupils or more. The study showed that there has been a greater increase in cost per pupil in average enrollment in high schools with less than 100 pupils than in the larger high schools. In 1928–29 the high schools with 100 to 199 cost less per pupil in average enrollment, while in 1927–28 high schools with an enrollment of 200 to 499 pupils were maintained at a lower cost than the other size high schools.

The median cost per pupil in average enrollment in high-school districts maintaining one-, two-, or three-year high schools for 1928–29 was $185.58. In 1927–28 there were seven such high schools, while in 1928–29 there were only six. In 1928–29 there were 22 school districts maintaining senior high schools, with a median cost for tuition of $202.59, as compared with $206.26 in 1927–28.

The median cost of 22 junior high schools for tuition purposes in 1928–29 was $164.51, as compared with $155.93 in 1927–28. The highest cost was $300.09 and the lowest $108.72 in 1928–29.

The tuition rates charged by districts maintaining high schools, other than junior high schools, for the school year 1928–29, ranged from $50 to $175 per pupil per year. The median rate of tuition in 1928–29 was $110 per pupil, as compared with $100 in 1927–28. A total of 46 districts increased their tuition rates over that for 1927–28. The median rate for junior high schools in 1928–29 was $120, as compared with $100 in 1927–28. The tuition rates ranged from $50 to $170 per pupil yer year. A total of eight junior high schools increased their tuition rates over that reported for 1927–28.

The median operating high-school cost for districts maintaining high schools other than junior high schools in 1928–29 was $147.53 per pupil in average enrollment. The lowest cost was $78.56, and the highest was $269.78. The middle 50 per cent ranged from $120.53 to $174.53. The highest operating cost was in the districts maintaining high schools with 1,000 or more pupils in average enrollment. High schools with less than 100 pupils, had the next highest cost.

The average operating cost per pupil for regular four-year high schools in 1928–29 was $161.51, while the cost for tuition purposes was $180.71, of which $26.36 was due to rental charges. In approved senior high schools, the average operating cost per pupil was $181.09, and the cost for tuition purposes was $206.52, of which $31.06 was due to rental charges. In approved junior high schools, the average operating cost was $150.84, while the cost for tuition purposes was $175.89, of which $31.14 was due to rental charges.

The median operating cost for senior high schools in 1928–29 was $180.30, and the median cost for junior high schools was $138.44. The lowest cost was $103.84, while the largest was $261.57 per pupil in 1928–29.

THE VALUE OF SCHOOL PROPERTY IN ILLINOIS

At the close of the world war in 1918, the construction of new school buildings in Illinois was almost at a standstill owing to war-time retrenchment. During the ten-year period following, there has been a great increase in the building and furnishing of school buildings in keeping with the parallel growth of construction work of all kinds throughout the country.

A report just issued by the state education department shows that the total value of school property in the state has increased from $154,619,859 in 1918, to $385,032,007 in 1928, or an increase of $230,412,148 during that period. The total amount of school bonds outstanding in 1928 was $68,180,753, as compared with $18,248,903 in 1918.

A total of ten counties show less bonded indebtedness in 1928, than in 1918, though in them the increase in value of school property is considerable.

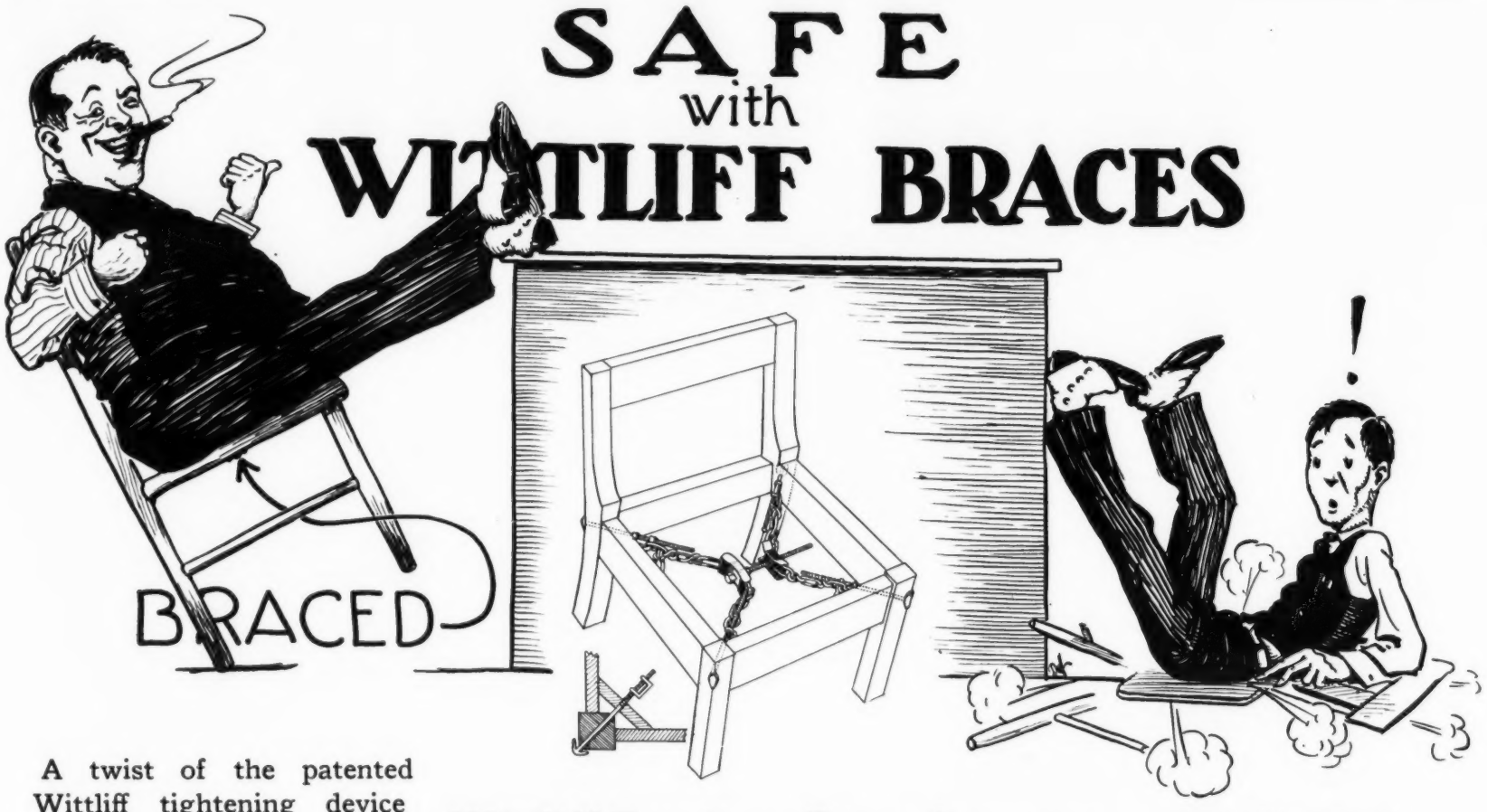
THE NEW KANSAS CITY SCHOOL-BOND ISSUE

On October 19, the voters of Kansas City, Mo., approved a bond issue of $5,000,000 for new buildings, sites, grounds, and additions. The proposition was carried by an eight-to-one vote and was the largest vote ever cast on any bond issue in the city.

The bonds will not all be issued at once, but will be disposed of as improvements on new buildings are needed.

Kansas City has a school plant with a valuation of approximately $28,000,000 and an enrollment of 17,939 pupils. The present bond issue will meet the needs in connection with the probable growth of the school population during the next five years.

SAFE with WITTLIFF BRACES



A twist of the patented Wittliff tightening device will make a wobbly, creaky chair STURDY.

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2810 Superior Avenue -:- Cleveland, Ohio

A Brace could have prevented this.

TRIAL SAMPLE—write for a Brace at our expense.

healthy chairs with WITTLIFF BRACES

FINANCE AND TAXATION

—Duluth, Minn. The school board has for the first time applied an arbitrary percentage of two per cent discount on uncollected taxes, cutting off $22,500 in estimating the annual school budget. The tax levy this year is 29.997 mills, as compared to 30.222 mills for last year's levy, raising by taxation $2,414,795. The budget was cut $37,349 below the requests, and is less by $1,000 than the budget of last year.

—State aid for schools in Indiana has entered upon a new program of operation with the prospect that $1,500,000, an increase of more than $325,000 over the previous year, will be available for the year 1929–30, according to a recent statement of the state superintendent of public instruction.

Effective on January 1, 1930, the new arrangement of diverting 45 per cent, instead of the former 30 per cent, of the 7 per cent state school tax into a fund for state aid, will materially increase the fund receipts. During the second semester, claims for local corporations for the school year will be met on a full 100-per-cent basis. In addition, there is a possibility that the $280,000 contribution from the chain-store license fees will also come into the state funds. Even if the money does not materialize, there will still be $500,000 available for 1929–30, which is an increase of more than $325,000 over the year 1927–28.

—The possibility of remitting part or all of the state property mill taxes for Wisconsin schools has been anticipated by Governor Kohler following a conference on the income tax and general property assessment figures.

The state tax commission has estimated the state's share of the income taxes to be $7,200,000, with a mill tax of $2,610,510. Of the total, three-eighths of a mill goes to the state university, one-sixth of a mill to the state normal schools, and one and one-tenth mills to the common schools of the state. Last year the mill tax total was $2,399,461.

—Youngstown, Ohio. The school board faces a reduction of $70,400 in the school budget due to a threatened shortage of funds. While $101,200 had been provided in the budget for salary raises, it later became apparent that the money would not be available due to delinquencies and other tax complications. The sum of $70,400 represents the amount of the shortage indicated by the county auditor.

—Litchfield, N. C. The school board has adopted a budget, amounting to $60,000 for the school year 1929–30, which is an increase of $14,000 over last year.

—Green Bay, Wis. A tax levy sufficient to yield $505,591 will be necessary to meet the operating expences of the schools in 1929–30, and to meet a deficit of $47,550 of last year. The school board has set the amount to be raised for operating expenses at $458,040, or approximately $48,000 less than the amount asked a year ago.

—Peoria, Ill. The citizens at a special election voted an increased tax rate of $1.25 for educational purposes, and a tax rate of 50 cents for school-building purposes. A total of 9,312 votes was cast on the tax for educational purposes, and 9,305 on the tax for building purposes. The election proved to be a hard battle. Apparently the community had not forgotten the experience of many years ago in connection with the Dougherty defalcations.

—Youngstown, Ohio. Facing a shortage of $70,000 in the school budget, the members of the school board have agreed to reduce the 1930 budget by $101,400, which is the amount of the tentative item for the proposed merit system and teachers' salary increases.

—Pittsburgh, Pa. A complaint of delayed payment of school taxes by the city treasurer has led to an order from the city council that the funds be paid to the school board in daily deposits. Taxes of $230,000 collected by the city treasurer in July were not remitted to the board of education until September. In the meantime the accrued interest was going into the city's funds. A payment of $125,000 made since the opening of the school term was the first received by the schools in six weeks.

—Minneapolis, Minn. Faced with an annual deficit because of the limit of a 22-mill maximum tax rate, the school board members have declared that an amendment to the city charter is necessary if the schools are to be adequately financed. The board was brought face to face with the situation when it accepted a cut of $128,000 in its 1930 budget, made by the board of estimate and taxation. The cut was accepted without further protest, because it was pointed out that the limit allowed under the charter had been reached. It was brought out that, if the schools are to be operated satisfactorily in 1932, the limit must be raised to 24, or even 26 mills, and to do this, a charter amendment is necessary.

—San Francisco, Calif. The school board has appointed Mr. David P. Hardy, deputy superintendent of schools, to the task of making a study of school construction costs. In the study, special attention will be given to the types of school buildings to be erected in the future, the matter of fireproofing, and protection against possible earthquakes. The board of education has adopted a policy of maximum safety, which calls for steel frame and concrete construction, or all reinforced concrete construction, for school buildings.

—Milwaukee, Wis. The school board will have available a total of $1,650,992 for school-building purposes during 1930. The amount includes $669,447 in bond funds, and $981,544 in mill taxes levied for building purposes.

—Chicago, Ill. The school board is considering ways and means of making the 1930 school budget fit the estimated revenue for the year. There will be a shortage of $7,500,000 for the operation of the schools this year. The present situation was brought about by the reassessment of property. On the basis of the 1927 assessment, the legislature fixed the tax rate at $1.47 for this year, and $1.35 for next year.

—The Indianapolis, Ind., board of education fixed the school-tax rate for 1930 at $1.02 on each $100 of taxable property.

—For a second time the voters of Bergenfield, N. J., have turned down a $200,000 bond issue for a new school to be built in an outlying district. There are those in the community who believe that $20,000 per classroom is too much to pay for an elementary school.

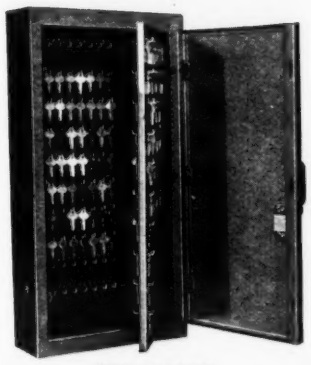
—The state auditor of Ohio has placed on the market, to be sold to the highest bidder, 1,760 acres of school land in Colerain township, Ross county.

The lands were owned by townships and school boards and have a history which dates back to the formation of the northwest territory in 1787. Inasmuch as the land has no value lying idle, it was decided to dispose of it to the highest bidder. The money derived from the sale will be placed to the credit of the townships and school boards in Ross county, owners of the property, who will receive the interest on the funds only.

—New York, N. Y. In a petition presented to the city board of estimate, the Brooklyn Public Forum has asked that the board retain in the budget the appropriation of $65,000 for the maintenance and equipment of 400 school playgrounds. It was urged that these playgrounds could be improved at a much less expense than the purchase of new playground sites.

Let Durabilt Solve Your Storage Problems

With a Complete Line of Lockers, Wardrobe Cabinets, Storage Cabinets, etc.



KEY CABINET
Small—15" wide x 4½" deep x 30" high. Without swinging leaf has 100 hooks. With swinging leaf has 300 hooks. Placing panel on door gives 100 additional hooks.
Large—24" wide x 4½" deep x 30" high. Without swinging leaf has 200 hooks. With swinging leaf has 600 hooks. Placing panel on door gives 200 additional hooks. Each hook will hold five keys. A number is stamped above each hook to correspond with locker numbers on keys. This facilitates the handling of keys.

TOOL LOCKERS
Equipment consists of milling cutter panel with 3½" adjustable pegs, also shelves and drawers for storage.

Where and how to store, most efficiently and economically, the thousand and one items used in schools, is among the numerous problems confronting busy executives in educational work today.

It is while they are facing these perplexing storage problems that the Durabilt Organization of "Storage Specialists" can be of inestimable assistance to them.

Frequently the items and materials that must be stored are not of a nature that will permit of their being handled in ordinary steel lockers.

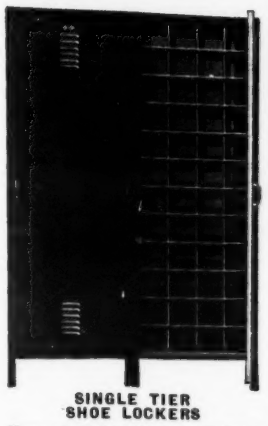
To satisfactorily meet such storage demands in schools, etc., a wide range of Durabilt equipment can be furnished.

These illustrations show a few of the many Durabilt standardized units and furnishings that provide handy and efficient storage for such items as keys, tools, dies, screws, bolts and nuts; clothing; art materials; maps; drawings; engravings and printing plates.

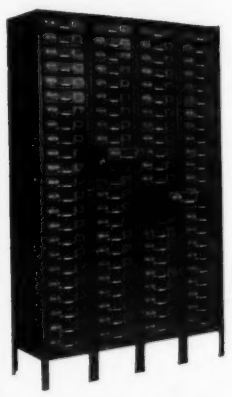
In addition to the applications shown here, the Durabilt line includes steel lockers of every description and steel cabinets in hundreds of sizes with interchangeable and adjustable equipment which provides unlimited flexibility in interior arrangement.

This extensive line of steel storage equipment and our years of experience in solving storage problems is at your command. Thousands of Architects, Engineers, Superintendents, Purchasing Agents, and others call on us to assist with plans and specifications for installations of lockers and cabinets. This valuable service is likewise available to you for the asking.

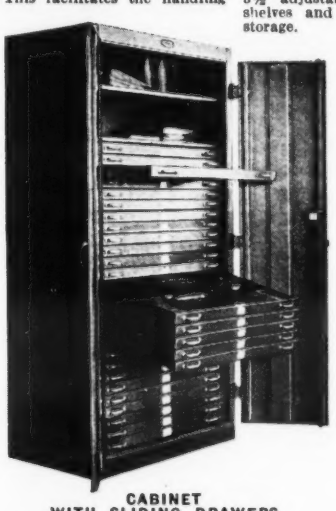
It would be to your advantage to phone our nearest Sales Representative or write us direct at Aurora for complete information on solving your storage problems. Descriptive literature on lockers and cabinets gladly sent on request.



SINGLE TIER SHOE LOCKERS
Shoe compartments are nominally 6" wide x 6" high.



"DOORLESS" LOCKERS WITH TRAYS
Equipment consists of 19—three inch trays in 60" high and 23—three inch trays in 72" high lockers. Trays are supported by rigid shelves and have special guides on each side which eliminate binding.



CABINET WITH SLIDING DRAWERS
According to your present needs, as many or as few drawers, in a variety of depths, can be placed in a Durabilt cabinet. More can be added later as the demand arises.

A GROUP OF TWO CABINETS
One Doorless, One Double Door for Tools
The illustration shows how a "Doorless" Cabinet and a "Double Door" type can be used side by side providing both closed and open storage for the hundreds of items used in Vocational Schools.

BASKET RACKS
Basket racks may be placed end to end or back to back to form any combination or arrangement desired.

BENCH TOP WITH PEDESTALS
In order to extend complete service to our customers we are prepared to furnish Bench Tops and Bench Pedestals when required, as a necessary part of locker equipment.

BASKET TRUCKS
All Basket Trucks are Double Row Arrangement. Caster equipment consists of two stationary and two swivel casters.

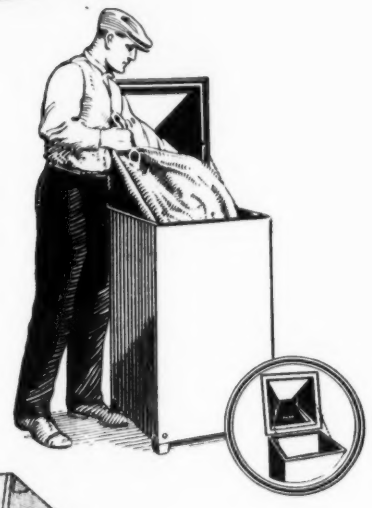
"No better built than Durabilt"

DURABILT STEEL LOCKER CO.

400 ARNOLD AVE., Sales Offices in all Principal Cities AURORA, ILL.

No. 3 SOLARS are easy to empty

of a series



Use two sets of inside containers. Remove the one in use and immediately replace with a fresh one. A neater job done in less time.

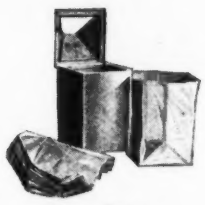
The neat metal container which catches your eye tells only half the story. The real reason for the great use of the SOLAR Self-Closing RECEPTACLE in schools is the fact that cleaning costs are materially reduced through its use.

Every SOLAR has an *inside container* exactly the shape of the outside case. It is this inner bag or can which catches and holds all waste material.

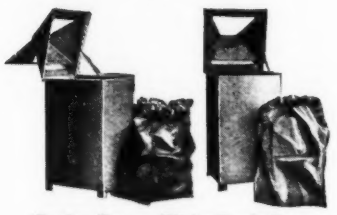
In his daily cleaning routine, the janitor simply removes the inside container with its contents—That's all there is to it. The inside container may be a paper, duck or burlap bag, or a sturdy, waterproof galvanized can—it all depends upon the use to which the SOLAR is put.

Cleaning time and cleaning costs depend a great deal upon your janitor's routine methods. The SOLAR cuts in half the time he spends in *picking up* and *disposing of* waste material. In addition to the fact that SOLARS prevent the *scattering* of waste, they therefore pay their own cost through reduced cleaning costs.

Write for descriptive literature.

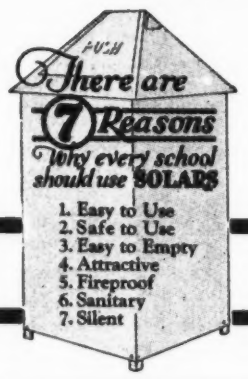


Paper Bags

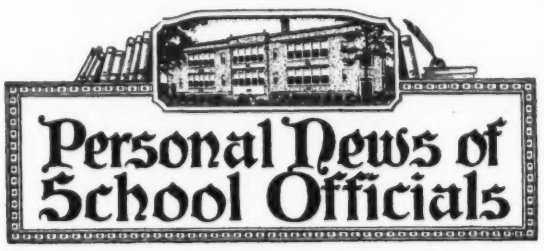


Burlap Bags White Duck Cans

Galvanized Cans



SOLAR-STURGES MFG. CO. MELROSE PARK ILLINOIS



Personal News of School Officials

—Mr. Nelson P. Benson, formerly superintendent of schools at Lock Haven, Pa., died at Danville on October 30, after a brief illness. Mr. Benson had been superintendent at Lock Haven from April, 1920 to February, 1929.

—Mr. G. W. Remington, formerly of Cleveland, Minn., has taken over the superintendency at Waterville.

—Mr. A. M. Limmer has resigned as superintendent of schools at Desdemona, Tex., to begin graduate study leading toward a doctorate in education. Mr. R. M. Cantrell has succeeded Mr. Limmer as superintendent at Desdemona.

—Mr. William C. T. Adams, of Keene, N. H., has been reelected superintendent of schools after completing nine years of service. Mr. Adams, who came to Keene from a professorship in the Plymouth State Normal School, has succeeded in modernizing the schools to the last degree. During his period of service, phonographs, radios, and pianos have been installed, the teachers have completed special professional courses, and the pupils have been tested by means of the standard tests. The school buildings are modern in every respect and the salaries of the teachers have been substantially increased.

—Supt. P. T. Walters, of Taylorville, Ill., has been reelected for a new four-year term.

—Supt. A. E. Fisher, of Wymore, Ill., has been reelected for a new term of three years. Mr. Fisher is entering upon his fourth year as head of the local school system.

—Dr. T. Luther Purdom has recently been appointed as director of the bureau of appointments and occupational information for the University of Michigan. Dr. Purdom is a graduate of the University of Michigan, and has served as a member of the staff of the school of education and as a member of the summer-school faculty. During the past four years he has served as director of the personnel work and as professor of education at the University of Missouri.

—Mr. S. W. Todd, of Fort Lupton, Colo., has been elected superintendent of schools at Lewiston, Idaho, for a period of three years. Mr. Henry DeYoung, of Enumclaw, Wash., is the new senior-high-school principal.

—Mr. William F. Sims, superintendent of schools at Harwich, Mass., died at his home on October 18, at the age of 58. Mr. Sims had been superintendent at Harwich for the past six years, coming there from Webster.

—Mr. Charles B. Pennypacker, principal of the Lower Merion High School at Ardmore, Pa., died suddenly at his home on October 27.

—Mr. R. O. Evans, formerly of Mott, N. Dak., has taken up his duties as superintendent of schools at Helena, Mont. Mr. Evans succeeds Mr. John Dietrich, who resigned after completing nineteen years of service to become consulting superintendent.

—Supt. P. T. Walters of Taylorville, Ill., has been reelected for a new four-year term, with a substantial increase in salary.

—Mr. C. M. Bardwell, of Aurora, Ill., former superintendent of the East Aurora schools, was guest of honor at the formal opening of the Bardwell School in Aurora. The school, which was erected under his supervision, has a capacity of 900 pupils, and was completed at a cost of $553,000.

—Supt. B. C. Moore of Eureka, Ill., has been elected a member of the legislative commission of the Illinois High School Athletic Association. Mr. Moore represents the schools of the ninth district, comprising Woodford, McLean, Tazewell, and Peoria counties.

—Dr. D. C. Ray, Mr. Myrum Crame, and Mr. Lawrence Clark are the new members of the school board at Pocatello, Idaho. The three hold-over members are Mr. R. H. Wells, Mr. Nicholas Ifft, and Mr. R. L. Black. The school board has reorganized, with the election of Mr. R. H. Wells as chairman; Mr. Nicholas Ifft as clerk; and Supt. J. M. McDonald as treasurer.

—Dr. Ralph L. Spaulding has been elected president of the board of education at Monticello, N. Y., succeeding Mr. Fred L. Stratton.

—At the regular monthly meeting of the board of education of St. Louis, Mo., Mr. Arthur A. Blumeyer was reelected as president, and Mr. Emil J. Barth was named as vice-president. Mr. Barth succeeds Mrs. Elias Michael, who had been prominently mentioned for the office of president. It was brought out that the election of Mr. Blumeyer as president was made in view of the fact that three acting officials have already been appointed to take charge of positions which recently became vacant. It was felt that it would be unwise to change the directing head of the school board at the present time.

—Mr. Fred L. Cole has been elected as a member of the school board at Tonopah, Nev., succeeding Mrs. L. Loker. The board has organized for the year, with Mr. Fred L. Cole as president, Mr. H. A. Johnson as clerk, and Mr. Ray Robb as treasurer.

—Miss Frances Russel, a former high-school instructor, has been appointed supervisor of teaching methods at Butte, Mont. Miss Russel is especially qualified for the position by training, experience, and natural ability. She received special training in teaching at the University of Washington, from which she received her degree. The Butte schools employ a total of 285 teachers, of which a number have had limited experience in teaching methods.

—Mr. David H. Goodwillie, Mr. Gustavus Ohlinger, and Mr. Sydney D. Vinnedge have been reelected as members of the school board of Toledo, Ohio.

SCHOOL OFFICIALS OF NEW YORK CITY HONOR MR. STERN

City and school officials of New York City, on October 31, attended the funeral service for Mr. M. Samuel Stern, vice-president of the board of education, who passed away on October 28. Rev. Dr. Gabriel Schulman, in his sermon, reviewed Mr. Stern's career in business and in the field of education and told of his philanthropic activities. He brought out that the outstanding trait of Mr. Stern was the sincerity and the intenseness with which he applied himself to the rendition of service, whether the service was that of a son, brother, public official, or citizen. Memorial services for Mr. Stern were held in all of the city schools, and administrative buildings in New York and Brooklyn were closed in the morning.

BERLOY

The Emblem of Locker Supremacy

The proper way to buy is to compare one product point by point with a competitive product and buy on quality with the idea of after-sales service constantly in mind. Berloy is supreme in the locker field and offers a challenge to anyone on a comparative basis.

In the first place Berloy Lockers are competitively priced, eliminating the old price argument.

Many years of study in locker design and application has provided a Berloy Locker for every locker use or need and every type of locker is built with the strictest of attention to structural stamina, durability of parts and enameling, size and the ultimate entire satisfaction.

School boards and superintendents have voiced their approval many times on the efficient, thorough way that Berloy representatives plan the job, apply the right locker to the right place and give the utmost of attention to all details that will help to make each installation more satisfactory. This planning service is of great aid to school Boards and Officials in contributing sound advice and new ideas to the advantage of all concerned.

Many do not know of the effective locking devices provided for Berloy Lockers. There is the conventional flat key lock which can be in turn supplemented with a padlock as there are very substantial lugs for that purpose. Combination locks are built in upon request and every effort is made to co-operate with officials of schools to provide the locking device that they prefer.

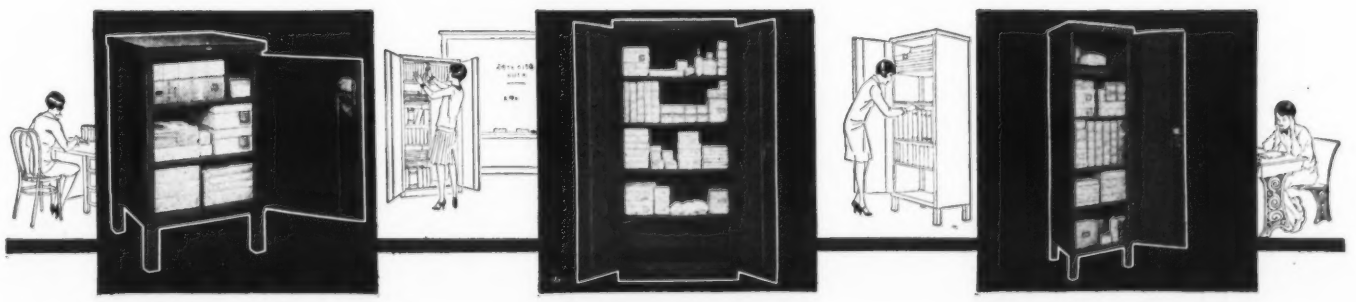
In addition to fire resistance, privacy, stemming of contagion by elimination of contact of clothing and space saving, we wish to bring to the front the substantial attractiveness of Berloy Steel Lockers. The effectiveness of a corridor lined with Berloy Lockers built into the wall adds considerably to the impression that parents and visitors gain when they visit the school.

The fact that the public schools of Houston, Texas, have in use more than fifteen thousand Berloy Lockers is in itself proof that the "Berloy" emblem marks a supreme achievement in locker construction.

THE BERGER MANUFACTURING CO.

CANTON . . . . . OHIO

Fifteen Warehouses to Serve You



The Legal Aspects of the Rights and Powers of School Officials with Respect to Taxation

(Continued from Page 43)

and the like. In the category of persons liable to taxation no one is omitted if he owns property subject to tax within the jurisdiction of the taxing district. Not even are infants, insane people, or aliens excluded, since their property enjoys the protection of the laws and the benefits of an educated community as much as does that of every other person.[10]

Property of Resident Citizen Located in Another District

The general classification of taxable property should be kept in mind. It embraces (1) real property (real estate), (2) tangible personal property, and (3) intangible personal property. It is obvious that real property has but one situs[11] and that is where it is located. But, even with this evident fact, there arise complications. Personal property, both from the nature of its mobility and the variety of taxing districts, may have a twofold situs, the one where it actually is and the other legislative. The actual location of a portable sawmill may be in one district, but the statutes may require that the tax thereon be returned in the district where the owner resides. This ruling would follow because of the temporary location of the property. This answers one part of the question pertaining to the property of a resident which is located outside the district of his residence. The other aspect of the matter pertains to real property, and is answered differently. Real property (if lying in one body) outside the district of residence is taxed not where the owner lives but where its actual situs is. A slightly different aspect presents itself in situations where the body of real estate is partly in one district and partly in another. This angle will be touched upon in a later paragraph. An excerpt from the ruling in a typical case[12] reads:

"We have not been able to find any case where any court has ever held, in the absence of an express statute authorizing it, that a municipality or school district had any authority to levy a tax upon real property outside its limits."

Yet, the frequency with which litigation arises over this one element of taxation is sufficient proof of the supposition that school officials are not familiar with the most salient principles of taxation.

Property Within District Belonging to Nonresident

The nonresident property owner is taxed on his real property where it is situated. The only exception to this is in the situation where the whole tract of land lies in two districts, the owner residing on one part of it. Under some jurisdictions he is liable to the whole tax in the district where he resides.

In a dispute arising over the location of property, the taxpayer must prove that his property is or is not within a certain district.[13] School officials often are hesitant to enforce their rights in the courts, because they are of the opinion that the burden of proof rests upon them in matters of this nature.

People and Property Temporarily within District

The increase of modern transportation facilities and the free movement of people and property have greatly increased the amount and value of property temporarily away from its taxable situs. The Supreme Court of the United States[14] has put at rest any and all questions about a capitation tax on persons temporarily engaged in business in a state other than that of their residence. The case arose over the payment of a school tax imposed by the territory of Alaska on men who, although employed several months in Alaska, resided in California. The court held that they were subject to the tax.

Likewise, the United States Supreme Court has supported the decisions of the state courts in ruling that property is not taxable while in commercial transit. Where, then, is such property taxable? Or does it escape taxation thereby? The second question may be answered first by stating that it should not escape but actually much of it does, because of the failure of tax officials and others who should receive the tax to assert their rights. The answer to the first question must be decided in the light of another. When does temporary location become more or less permanent? The answer is not easily given. Generally speaking, if the property is awaiting transportation facilities to resume transit, it is not subject to taxation.[15] But, if stored for an indefinite period, or if some part of the manufacturing process is continued, or if awaiting sale, it is subject to taxation.[16]

Property leaving its place of origin before the levy of the tax is actually imposed may escape taxation there, but may become subject to tax at place of destination. Or it may be subject to tax at place of origin and again at place of destination due to a difference in the dates of levy.[17]

Property in More Than One District

The general rule with respect to real property has been stated. But there is much landed property in the same tract owned by one individual which is divided by the line separating one or more districts. Laws regulating the taxation of such property are not in agreement and a long line of decisions reveals different rulings among the states. The most precise general rule that can be deduced is, that in the absence of any contrary legislation, land divided by the boundary of one or more districts must be taxed in each district for the portion situated therein.[18] But, in some jurisdictions, it is provided that property lying partly in one district and partly in another, owned by the same person, is taxable in the district where the owner resides.[19] In others, the tax on the whole body is returnable in the district wherein are the major proportion of improvements.

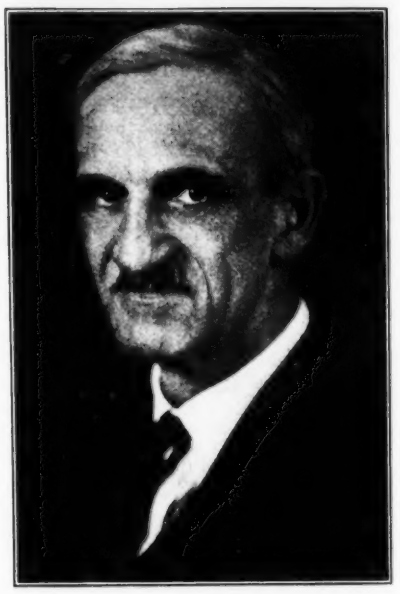
Village and city lots divided by school-district boundaries are commonly assessed for taxes in the district containing the greater part in value. Several instances have occurred whereby litigation has arisen over the tax returns from a house sitting on the boundary line between two school districts. What ruling prevails in such cases. The core of a Massachusetts opinion[20] furnishes the applicable principle, stating that the tax should be returned in the district wherein that part of the house lies which is occupied by the resident in performing those offices which characterize his home — sleeping, eating, sitting, receiving visitors.

The change of boundaries of school districts affects taxable property situated along the changed boundaries. The district to receive the tax in any one year under conditions of boundary change is determined largely by the time of change in reference to the time of tax levy. Property annexed to a district before the levy is made is subject to the tax in that district; if annexed after the levy has been laid, it is liable for the tax in the district to which it formerly belonged.[21] But, it must be remembered that no amount of elasticity in the laws, and no amount of variety in the decisions, permits property to escape its share of the burden of school support when the taxes have become due.

The Rule of Domicile

What is domicile? The term is not synonymous with residence. A person may have more than one residence but can legally have but one domicile. To establish a domicile two things are necessary: (1) the intention to make the place one's home, (2) the act of living there for an indefinite period. Contributory circumstances may enable a person with two residences to select either one to be designated his domicile. It has been held that one who moves to town to educate his children does not lose his domicile at his farm residence if he intends to return there when the education of his children has been completed.[22]

(Concluded on Page 107)



MR. HENRY GEERLINGS,
Secretary, Board of Education,
Holland, Michigan

Mr. Geerlings holds a unique record for continuous service on the school board of Holland, Mich. He has been a member of the board continuously for the past 33 years, and for the past 22 years has been secretary of the board.

Mr. Geerlings was born in Holland. He was educated at Hope College, and at McCormick Seminary in Chicago, and holds the degrees of A.M. and B.D.

Mr. Geerling's career as a public servant is quite varied and extensive. He was a member of the city council of Holland for five years, mayor of the city for two terms, and a member of the local library board for 25 years. He is editor of The Leader, a weekly publication published in the interest of Hope College.

[10]Wheeler v. Hall, 6 Allen (Mass.) 558; Payson v. Tufts, 13 Mass. 493; Whitaker v. Ellis, 102 Wash. 43; People v. Naglee, 1 Calif. 232.
[11]Situs may be defined as location for a particular purpose.
[12]C. B. & Q. R. Co. v. Cass County, 51 Nebr. 369.
[13]Mills v. Thornton, 26 Ill. 300.
[14]Alaska Packers Ass'n v. Hedenskoy, 267 F. 154.
[15]Board of Com'rs of Brown County v. Standard Oil Co., 103 Ind. 302.
[16]State v. Maxwell Motor Co., 171 N. W. (Minn.) 566.
[17]People v. Holiday, 25 Calif. 300; Warren v. Werner, 14 Wis. 366; Savary v. School Dist. No. 4, 53 Mass. 178; Gout v. Illingworth, 131 Iowa, 281.
[18]Shaw v. Lockett, 14 Colo. App. 413; Arthur v. Polk Burough School District, 164 Pa. St. 410.
[19]Tebo v. City of Brooklyn, 134 N. Y. 341; Jasper County v. Butts County, 142 Ga. 576.
[20]Chenery v. Inhabitants of Waltham, 62 Mass. 327.
[21]Phelphs v. Peoria School Inspectors, 214 Ill. 30; Union Indep. District v. Cedar Rapids Indep. District, 62 Iowa, 616.
[22]Mongomery v. Lebanon, III Ky. 646.

RATING THE SUPERINTENDENT

Who shall rate the superintendent?, is admittedly a fair question. He is rated by pupils, by parents, by the community, by the newspapers, by the teachers, by the board of directors, and by state officials. The superintendent, too, has not one, but many persons who rate his work. Knowledge of his work in many cases is very incomplete and one-sided, disposition is biased, judgment is given about matters of which the judge has no knowledge of values. Teachers rated by superintendent, by principal, and by supervisor, surely cannot think they have made rating of teachers ridiculous by asking satirically, "But who shall rate the superintendent?" They cannot avoid the conclusion that theirs is the lighter burden. So it should be, of course.—Charles A. Wagner.

ASH REMOVAL

G&G Model E Electric Hoist in use. One man can perform entire operation of raising filled cans and placing them on sidewalk. Note particularly how sidewalk opening is protected by G&G Sidewalk Doors and Spring Guard Gate. No danger of injury to operator, pedestrians or school pupils.

THIS ELECTRIC HOIST

proves its low operating cost in series of remarkable tests

HERE are the net findings of engineers of the Sprague Electric Works of the General Electric Company, who conducted unbiased tests for us to determine operating efficiency. Hoists tested were regular stock models at actual installations, in use for some time for the removal of ashes. Results vary somewhat due to differences in rates per kwh. hour and distance of lift.

296 CANS RAISED IN ONE KILOWATT HOUR
85 ROUND TRIPS FOR ONE CENT CURRENT COST
227 CANS HANDLED IN ONE KILOWATT HOUR
15½ TONS OF ASHES RAISED IN ONE KILOWATT HOUR
258 CANS RAISED IN ONE KILOWATT HOUR

Detailed figures of these tests are available on request. Besides this authentic proof of notably low current cost, remember that with this hoist one or two men are able to do the work ordinarily performed by three or four men with less efficient equipment. One man may, if desired, do all the work alone.

There are other models, hand or electrically operated, to meet varying conditions. Overhead crane models are recommended where truck can come alongside sidewalk opening. G&G Sidewalk Doors and Swing Guard Gate operate automatically and completely safeguard street opening.

SCHOOLS PREFER THIS HOIST

1,905 schools in 44 states are now using G&G Ash Removal Equipment because of its economical operation, safety features and long life. It is now standard equipment with Boards of Education in Pittsburgh, Des Moines, Seattle, Louisville, Kansas City, Mo., Kansas City, Kans., Cleveland, Baltimore, Jersey City, Newark, N. J., Boston and New York. This nation-wide endorsement is significant.

Write for illustrated catalog

GILLIS & GEOGHEGAN

63 Years of Service

551 West Broadway **New York, N. Y.**

"HERE'S A GOOD BOOK ON SEATING PROBLEMS"

COMPLETE *data on three different types of seats for your crowds.*

New! This book is just off the press. It consists of 28 pages, covering KNOCK-DOWN Bleachers, ADD-A-SEAT Bleachers and the Leavitt Stadium Seat, carefully indexed, with diagrams, to be of the greatest possible service to you in solving your seating problems. We will gladly send your copy on return of the coupon below.

MADE ONLY BY

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BLEACHERS

Send in the coupon—no obligation

LEAVITT MFG. CO., Dept. SB1, Urbana, Illinois
Please send me without obligation a copy of "Seating Problems."

Name.....

Address.....

Armco culverts and drains are manufactured from the Armco Ingot Iron of The American Rolling Mill Company and always bear its brand

Our drains can freeze up tight

—but they'll be ready for service with the first Spring thaw!

NO worries about frozen drain pipe. What a satisfaction — and what a tribute to sensible selection and shrewd buying!

Men who have installed Armco drains know from years of records and from their own experience that Armco Perforated Pipe can and does stand up to the terrific pressures of freezing soil and water.

When thawing weather comes next Spring, Armco drains will be on the job. And for years to come.

For Armco Perforated Pipe is built in corrugated flexible form to resist all strains —of pure iron, to withstand corrosion. And it does just that.

ARMCO CULVERT MFRS. ASSOCIATION
Middletown, Ohio

ARMCO *Perforated* PIPE

THE FUN FUL LINE
PLAYGROUND EQUIPMENT

Above is shown the new Cellar Door Slide recently adopted by the Board of Education of the City of New York.
Wherever this slide has been placed in service it has won the hearts of children and the approval of physical directors. It encourages unlimited mass play, for the more who play—the more fun.

Many of the features of fundamental design now found in all playground equipment are products of almost thirty years of Hill-Standard pioneering. However, many *refinements* of generally adopted design can be obtained nowhere but in Fun-Ful equipment, for Hill-Standard is, today as ever, the leader in design.

Only the finest material finds its way into Fun-Ful playground equipment. All fittings subject to strain or shock are made of tough malleable iron or steel. Slides are constructed of selected hardwood and rust-resisting Armco iron bed ways or with rock maple bed ways at no difference in price.

Above all else consider Safety—the direct result of correct design, unexcelled workmanship, and faultless material. Each new Hill-Standard design is thoroughly tried out and must pass every conceivable test before it is offered for sale. Safety is the watchword down to even the smallest detail. Fun-Ful equipment is *Safe* equipment!

Hill-Standard prices are no higher than for equipment not offering equal service and safety. And your pocketbook is protected by the famous Hill-Standard Guarantee.

Send for our catalog of Fun-Ful playground equipment.

DIVISION F.

HILL-STANDARD CO.
EST. 1900
Anderson, Indiana, U.S.A.

(Concluded from Page 104)

With respect to personal property, the *rule of domicile* is, that in the absence of statutes fixing a different rule, the taxable location of all personal property is at the domicile of the owner. How this rule under varying conditions is not controlling has been mentioned. It merits further discussion. The principle of *mobilia sequuntur personam* — movables follow the person — is a product of the Middle Ages when it was possible, and the only safe way of doing, to carry one's personal effects with him wherever he went. "So far as the present law of taxation is concerned, it means that the situs of personal property is the domicile of the owner unless (1) there is a statute to the contrary, (2) property is tangible and has acquired an actual situs of its own other than where the owner is domiciled, or (3) in case of intangible property it has acquired a business situs in a place other than the owner's domicile."[23]

Personal property may, therefore, have two taxable locations in some cases, one at the owner's domicile, and the other where the property is located. The latter is generally controlling, particularly under conditions where the property, although personal, acquires a more or less permanent situs in a district other than where the owner lives.[24] This principle is gaining a widened application in this day of extensive corporations with property of all kinds in many taxing districts.

If no circumstances intervene to overcome it, a person may change his residence with the expressed intention of escaping taxation in a certain district. But, this change must be accomplished by both intent and act.[25] To effect a pseudo change under false representations may result in prosecution with its attendant discomfiture.

[23]Cooley, Taxation, par. 440; see also Endicott, Johnson & Co. v. Multnomah County, 190 P. (Or.) 1109.
[24]Carmody v. Clayton, 154 S. W. (Tex.) 1067; State v. Harrington, 217 P. (Mont.) 681; Bassett v. City of Boston, 114 N. E. 1035.
[25]Agassiz v. Trefry, 266 F. 8; State v. Buder, 271 S. W. (Mo.) 508.

Remoteness of Property from School Center

It is just another of the many unexplainable sources of tax litigation that some property owners have objected to the payment of taxes because of remoteness from the school center. This has occurred in districts of considerable area. If such a principle were allowed to control, there would be no end to controversy over distances from schools. The state may as well decrease state taxation in proportion to the remoteness of property from the state capitol as to permit property remote from a schoolhouse to be taxed less than nearer property.

Summary

1. Since taxation is the only source of public revenue for the schools, school officials should be cognizant of the general legal principles involved in determining the taxable situs of persons and property in order to be certain that all taxable property is furnishing its proportionate share of the tax burden.

2. Real property is taxable in the district where located, except—

a) Where lying in one body, owned by one person, but in more than one district, it may be taxable for the whole in the district of the owner's domicile, or where more in value lies and the like.

3. Property of a nonresident is taxable as follows:

a) Real property where situated;

b) Personal property that has acquired a permanent situs, where it is situated;

c) Personal property not of permanent situs, at the place of the owner's domicile.

4. Property temporarily in the district or in transit cannot be taxed therein until it has acquired a more or less permanent situs there.

5. The taxable residence of a person having more than one place of abode is where he by intent and act sets up his domicile.

6. Property transferred from one district to another is taxable in the one where located when the tax was levied and assessed.

7. Remoteness from the school center is immaterial to the equalization of the tax burden on property.

MEN FOR PRINCIPALSHIPS

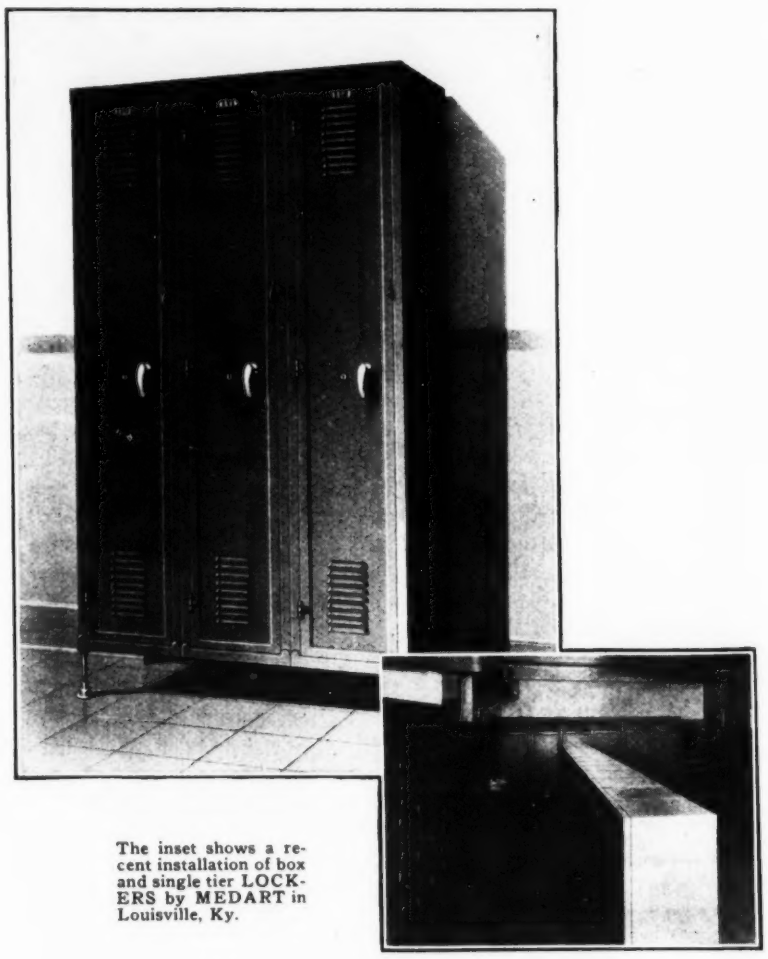
In New York City the question as to the relative ability of men and women in holding high-school principalships has arisen. A Brooklyn newspaper by way of comment says: "The late Elbert Hubbard once remarked that man is superior to a woman when he is, and when he isn't he isn't. The assumption of superiority in school matters merely on account of sex is an out-of-date proceeding. Executive efficiency in school management is not a matter of sex, but of ability that may be possessed by either sex.

THE RELATIONSHIP OF SUPERINTENDENT AND PRINCIPAL

(Concluded from Page 58)

amount of responsibility to the principal under their direction, and should give due credit for the faithful performance and discharge of such duties. The principal should not feel that criticism and responsibility for mistakes or successes should rest with the superintendent any more than the superintendent should feel that all honor and credit for the success of the school should go to himself.

"Finally, both superintendent and principal should have a distinct understanding of the authority of each. They should work together in the school as colleagues, and their policies should be thoroughly discussed wherever their judgments conflict. Each should be the loyal supporter of the other official, and their acts should be prompted by the very best motives."



The inset shows a recent installation of box and single tier LOCKERS by MEDART in Louisville, Ky.

Make the Locker Room fit the School

When you are planning to build a new school, or remodel your old one, you will want to make the locker room *practical.*

MEDART STEEL LOCKERS are practical not only from the standpoint of superior features and durability, but because additional units can be added as your enrollment increases. The illustrations show the sturdy construction of MEDART LOCKERS, and the exceptionally attractive appearance of a MEDART installation.

The Medart engineering service is at your disposal in planning the most efficient, economical, and far-sighted installation of locker-room equipment; helping you plan now, not only for the best lockers for your present needs—but for the future. This service places you under no obligation whatever.

MEDART

Manufacturers Since 1873

Manufacturers of Steel Lockers, Steel Shelving and Steel Cabinets, Gymnasium and Playground Apparatus.

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3530 DeKalb Street Saint Louis, Mo.

WASHINGTON CORRESPONDENCE

By A. C. Monahan, Formerly U. S. Bureau of Education

Sixtieth Meeting of the Department of Superintendence, N.E.A.

The meeting of the Department of Superintendence of the National Education Association, to be held at Atlantic City, February 22 to 27, 1930, will be the sixtieth anniversary meeting. Special note of this fact is to taken in the program. One special feature is a dinner to be given by the president, Supt. Frank Cody of Detroit, to all living ex-presidents.

The first general session will be on Saturday afternoon. It will be the formal opening of the exhibits. Mr. Frank Bruce, publisher of the SCHOOL BOARD JOURNAL, will preside, and Mr. Frank Cody, president of the Department, will be the principal speaker. This formal opening has been decided upon because of the important part the commercial exhibits play in the meeting. Approximately 200 manufacturers of school furniture, school supplies, and books, will have exhibits, and their exhibits are distinctively educational rather than merely commercial.

The theme of the meeting is "Education in the Spirit of Life." Seven general sessions will follow this theme.

A new feature of the program will be a pageant in which about 1,000 persons will take part. This will be given in the auditorium on Tuesday evening as the program given above "Life is Recreative: Education must train for Leisure." Students from the state normal schools and other adults belonging to various groups will take part.

Two great student orchestras will give concerts during the meeting. One will be a National High School Orchestra, composed of 300 students selected from all parts of the United States.

The other orchestra is a New Jersey All-State Orchestra, composed of high-school boys and girls from schools in various parts of the State of New Jersey.

Publicity for School-Board Meetings

Proper publicity for subjects discussed by school boards is an important matter in these days when newspapers are apt to make much of relatively unimportant matters because they contain elements of sensationalism. The District of Columbia board of education has decided that all meetings of subcommittees shall be open to members of the press, in order that, "more comprehensive reports of important issues" may be given to the public.

The board is distressed by recent newspaper headlines to the effect that it had voted not to give diplomas to students completing public-school courses who have 'dirty necks.' This so-called 'dirty-neck item' is merely a newspaper phraseology for a section of the proposal before the board in regard to "neglect of cleanliness." Members of the board complained that the cleanliness item in this proposal had been singled out for exaggeration, and that this complexion would not have been thrown on the proposal if reporters had been present at the committee meeting which drew up the proposed rule.

The proposal discussed by a school board subcommittee, and recommended to the board for action is:

"In view of the fact that a diploma from a public school attests to the honorable completion of a course of study, and believing that character training should be an inherent result of the completion of every educational program in the public school. The board of education will consider withholding a diploma from any junior high, senior high, or normal-school pupil who is guilty of any one of the following offenses: Immoral conduct, indecent language, dishonesty or pointed opposition to authority, persistent disobedience or disorder, untruthfulness, habitual tardiness, unauthorized absence, or unclean condition of person or clothing, notwithstanding that said pupil may have earned all necessary credits in studies prescribed for a diploma."

National Secondary-School Survey

The survey of high schools and junior colleges, by the U. S. Office of Education, will be started immediately under the personal direction of the Commissioner of Education, Dr. John Cooper. Dr. Leonard V. Koos, of the School of Education of the University of Chicago, will be associate director.

A consulting committee, to serve without pay, has been selected and appointed. It will meet from time to time to advise with the commissioner and the associate director relative to the work. The members are:

H. V. Church, principal, Township High School, Cicero, Ill.; Elwood P. Cubberly, Leland Stanford Junior University; James B. Edmonson, University of Michigan; Charles H. Judd, University of Chicago; Charles R. Mann, American Council on Education; A. B. Meredith, Commissioner of Education, State of Connecticut; John K. Norton, National Education Association; Joseph Roemer, University of Florida; Wm. F. Russell, Teachers College, Columbia University.

The recommendations of the Commissioner of Education for the organization call for an advisory committee of thirty. A staff of assistants will be appointed to tabulate the data and information collected. They will be paid from the special appropriation made by Congress, $50,000 of which is available for the present year ending June 30, 1930.

Growth of Public High Schools

In the eight-year period ended in 1926, the actual enrollment in public high schools in the United States increased 93 per cent, the number of high schools increased 33 per cent, and the number of teachers in high schools doubled. Costs increased 300 per cent. If to the number of children in public high schools be added the number attending private and parochial high schools, the total enrollment equals in number one half of the total number of children in the United States between the ages 15 to 18 years inclusive. The U. S. Office reports that in 1926, there were 21,700 public high schools, with 169,538 teachers, and 3,757,466 pupils. These high schools were conducted at a cost of $697,911,735.

National Child-Aid Study

President Hoover met recently with a group which is to plan a national study of child health, protection, and education for what will be known as the White House Conference on Child Health and Protection.

The planning committee has two cabinet members, Secretary Wilbur of the Department of the Interior, who is the chairman, and Secretary Davis of the Department of Labor, the heads of the Public Health Service and the Children's Bureau; the heads of some of the interested national organizations, and a score of private individuals who are outstanding experts.

The committee is to study what is being done for the child, and make recommendations for future work by government, state, and other agencies.

The Users of Sani-Dri

Include Schools, Colleges and Universities Throughout this Continent

The Sanitation, Service and Savings of SANI-DRI have been welcomed by Educational Executives. How hearty this welcome has been is best shown by the long list of satisfactory, full-functioning installations in schools, colleges and universities throughout North America. Below we print only a portion of this list, selecting names geographically, to indicate the widespread use of this modern washroom equipment.

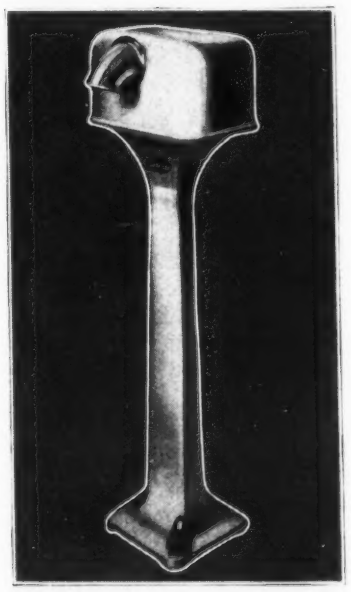
Partial List Includes

McGill University, Montreal, Canada.
University of California, Berkeley, Calif.
University of Washington, Seattle, Wash.
Western University, London, Ontario.
University of Utah, Salt Lake City.
University of Oregon, Portland, Ore.
University of Redlands, Redlands, Calif.
Colorado Agricultural College, Ft. Collins.
East High School, Buffalo, New York.
Salisbury High School, Salisbury, N. C.
Clarkston Public Schools, Clarkston, Wash.
Vallejo High School, Vallejo, Calif.
E. Grand Rapids High, E. Gr. Rapids, Mich.
Minneapolis Public Schools, Mpls., Minn.
Board of Education, Sioux City, Iowa.
State College of Pullman, Seattle, Wash.
Teachers College at Greeley, Colo.
Weyburn School Board, Weyburn, Sask.
Westervelt School, London, Ont.
El Monte Union High, El Monte, Calif.
Nova Scotia Tech. School, Halifax, N. S.
Central City Business School, Syracuse, N.Y.
St. Joseph School, Cartierville, Quebec.
Protestant School Board, Montreal, Quebec.
Fieldston High School, New York City.
Board of Education, Chicago, Illinois.

The New "SF" Model *SANI-DRI*

Has Twelve Improvements

These betterments include greater speed, broader airflow, balanced heat and the advantage of a new, "all-position" swivel nozzle that assures quick, comfortable drying to all, regardless of age or size. SANI-DRI is solidly built for continuous service and is "mischief-proof."



"Dries Quicker Than A Towel"

This new model SANI-DRI provides a faster, more thorough drying service than ever known before. It improves sanitation, eliminates waste and litter and saves 60% to 90% over old-fashioned methods as well. New booklet "12 Points of Perfection" tells the new details. Send for a copy.

Electrical Division Dept. 12 A

CHICAGO HARDWARE FOUNDRY CO.

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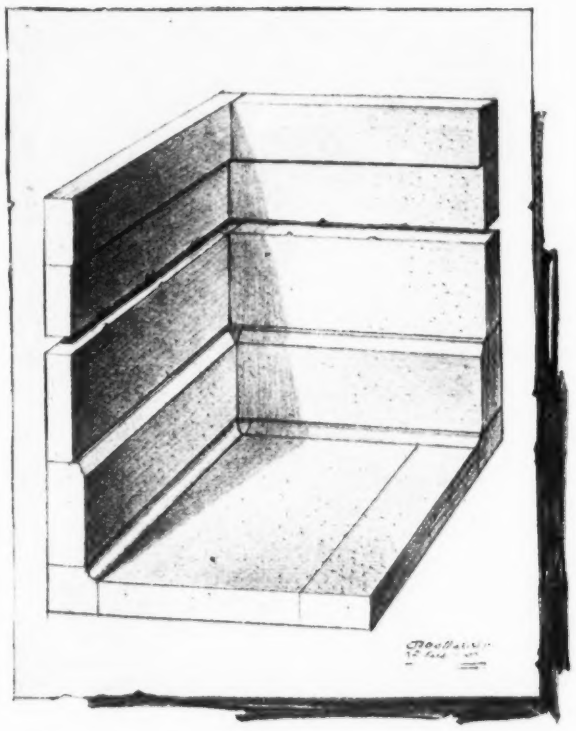
Chemical Storage Rooms in New York City High Schools are FIREPROOF



Send us blueprints or measurements of your rooms and we will submit an estimate on an Alberene Stone installation. No obligation. You will be surprised at the inexpensiveness of changing over to Alberene and freeing your mind of worry over loss of valuable material or even more serious losses. View of corner of room, shown above.

Not only is Alberene Stone fireproof but it will resist flames without cracking or spalling. Then, too, streams of cold water played against its heated surface will not cause it to break or crumble.

These inherent qualities of quarried Alberene, plus its ease of construction and its known resistance to acids and alkalis, were responsible for its choice for floors, shelving and wainscot in the Chemical Storage Rooms of all the High Schools in New York City.

Because of our knowledge of industrial chemical processes and our long and successful experience with Chemical Storage and X-ray installations, you may find the suggestions of an Alberene Sales-engineer of value, or perhaps a "Bulletin" will give you the preliminary information you wish.

ALBERENE STONE COMPANY, 153 West 23rd St., New York

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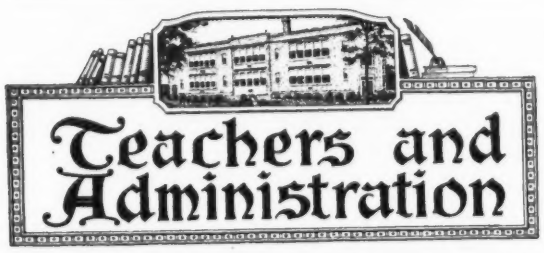
A product of the State of Virginia

Floors — Shelving — Wainscot



Teachers and Administration

DETROIT TEACHERS BENEFIT FROM GROUP INSURANCE PLAN

The group insurance plan in Detroit, Mich., is the outcome of a three-year study of various types of insurance and of the needs of the Detroit teachers in this regard. The study was made by a committee appointed by the administrative division, which included a study of various plans of insurance. The group insurance plan was finally agreed upon as the type of policy best adapted to the group. A policy including accident and sickness features was written and submitted to thirty representative companies for their bids. The company submitting the lowest bid chosen to write up the insurance.

A recent report on the operation of the group insurance plan, presented by Mr. P. T. Rankin in the Detroit Educational Bulletin, shows that up to date, 28 teachers in the administrative and intermediate divisions have received a total of $5,976.44 in benefits under the group insurance plan adopted last spring. Sickness accounted for the great bulk of the disability for which benefit was paid. The great majority of the payments made thus far have been made for sickness or accident which occurred during the vacation months. The benefits to date are 23 for sickness, and 5 for accident, making a total of $5,976.44.

The group insurance plan has been extended to the high-school and college division.

A STUDY OF STATISTICS OF TEACHERS' COLLEGES AND NORMAL SCHOOLS

Since 1926 the number of teachers' colleges in the country has been increased from 101 to 137. Similarly, the number of city normal schools and private normal schools have increased slightly since 1926. In 1920 the teachers' colleges were training 40.4 per cent of all students in strictly teacher-training institutions, and in 1928 they were training 75.4 per cent.

A recent report on Statistics of Teachers' Colleges and Normal Schools (Bulletin No. 14, 1929), prepared by Mr. Frank M. Phillips for the U. S. Office of Education, indicates that 339 institutions are engaged primarily in the preparation of teachers for positions in elementary and high schools. These institutions are classified as teachers' colleges, state normal schools, city normal schools, county normal schools, and private normal schools.

The report shows that, since 1926, the number of teachers' colleges has increased from 101 to 137, a large majority of the 36 additional schools having been transferred from the state normal school list. State normal schools have been reduced from 102 to 69 in number. The city normal schools increased from 28 to 29 over 1926, the county normal schools decreased from 108 to 46 in two years, while the private normal schools had a decrease of 5 in two years.

In 1920, the teachers' college were training 40.4 per cent of the students in strictly teacher-training institutions, and in 1928 they were training 75.4 per cent. Students in state normal schools at present represent 15.6 per cent of the tofal; those in city normal schools, 5.2 per cent; those in county normal schools, 0.5 per cent; and those in private normal schools, 3.4 per cent. The public teachers' colleges and normal schools enrolled 93 per cent of all the students taking teacher-training work in these institutions during the period studied.

In 1918, men students represented 12 per cent of the total number taking teacher-training in teachers' colleges and normal schools in 1927–28. The percentage increased to 20 in 1926, and it was 19 in 1928. The number of men taking this training decreased from 54,221 in 1926, to 52,054 in 1928, while the number of women increased from 215,985, to 222,294 during the same period.

From the data compiled, it is shown that the total enrollments have increased 1.15 per cent in these institutions over 1926; enrollments in teacher-training, 1.53 per cent; and receipts, 8.23 per cent. During the two-year period, the expenditures increased from $61,811,149 to $64,349,498, or 4.11 per cent, and the value of the property increased from $202,630,512 to $222,644,682, or 9.88 per cent. The value of the buildings and grounds increased from $161,425,113 to $175,664,894; and the value of the libraries, apparatus, and machinery, from $21,934,639 to $24,808,414.

Reducing all schools to an average enrollment upon a 36-week basis, 16 teachers' colleges with an enrollment of fewer than 400 students, have an average per-capita cost of $439.67 for current expenses; 40 schools with an enrollment of between 400 and 799 have an average per-capita cost of $355.37; 32 schools with an enrollment of between 800 to 1,199 have $297.74; 12 schools of between 1,200 and 1,599 have $233.51; 10 schools of between 1,600 and 1,999 have $194.80; and 7 schools with an average annual enrollment of 2,000 and more, have an average annual per-capita cost of $236.46 for all current expenses.

Among the normal schools, 5 with an average annual enrollment of fewer than 200 students have an average per-capita cost of $324.43 for the year for all current expenses; 20 schools with an enrollment of between 200 and 399 have an average per-capita cost of $373.03; 13 schools of between 400 and 599 have $265.38; 7 schools of between 600 and 799 have $304.21; 5 schools of between 800 and 999 have $205.47; and 5 schools with an enrollment of 1,000 and more have an average per-capita cost of $246.74.

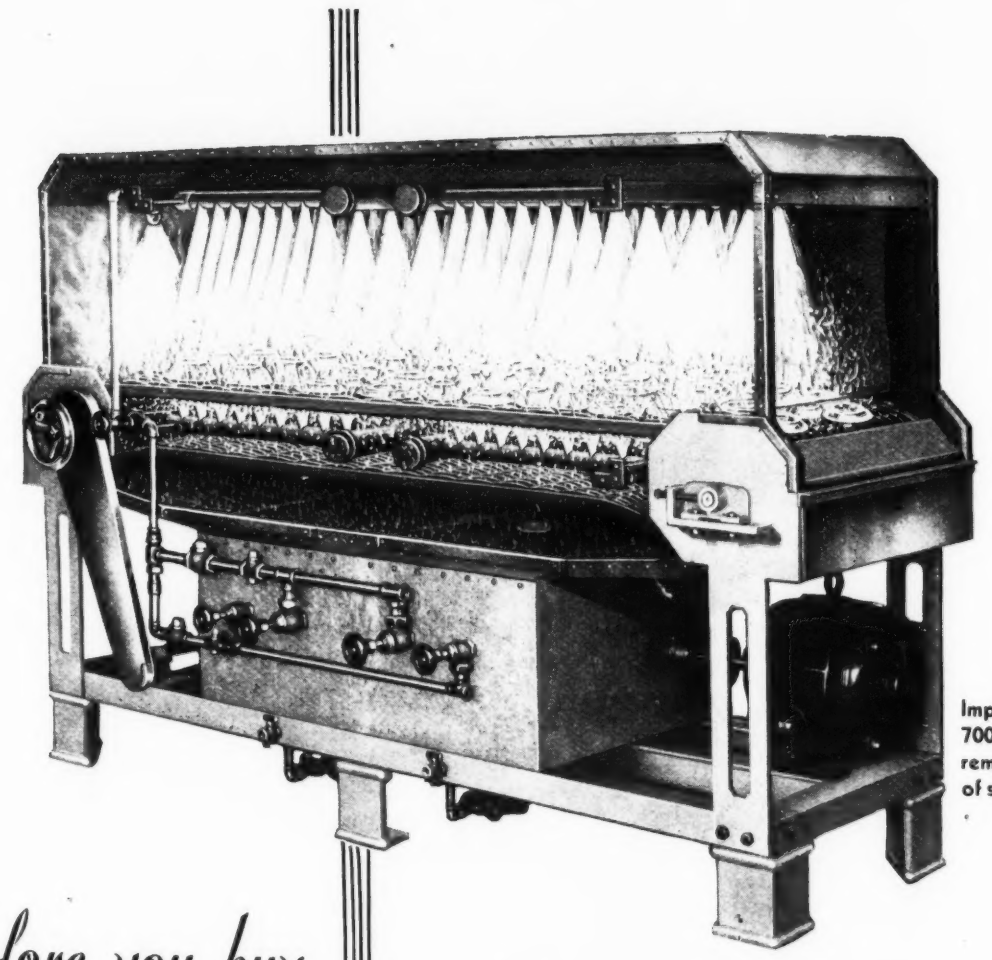
TEACHERS AND ADMINISTRATION

—Lawrence, Mass. The school board has been asked to approve a suggestion of Mr. Michael J. Walsh, one of the members, providing for a passing mark in the elementary teachers' examinations. Under a rule adopted in 1926 governing the examination, it is provided that a permanent eligible list be created by taking the names of 25 applicants with the highest marks, and that vacancies in the list be filled by taking the required number from those receiving the top ratings.

There were fifteen names on the eligible list prior to this year's examination, and the rules were suspended to permit the 25 highest in the 1929 test to qualify for the eligible list. A total of 98 young women took the examination, and of these, 73 did not qualify. It was the opinion of Mr. Walsh that all those who obtained marks of 70 or better should have been placed on the list.

The principal argument against the adoption of a passing mark is that 81 of the 98 applicants received marks of 70 or better.

—In the Plains township, near Wilkes-Barre, Pa., 140 teachers went on a strike because of delayed salary payments. The school board served notice upon the strikers that they must get back to work or find their places filled by a new set of teachers. The answer was that the strikers would remain out until the first of the year when a new school board will assume office.



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Before you buy
LOOK INTO
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HANDSOME is as handsome does! So we say: "Look into a machine that's as good as it looks!"

A Champion!

"Built like a battleship"—to keep peace in the kitchen.

Performance!

Performance that makes good 24 hours of the day, 365 days of the year.

Models, big and small and "in-between"—the right size for every job.

We would welcome an opportunity of telling you how Champion Dish Washing Machines are making remarkable savings for prominent users everywhere.

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THE SPECIFICATION FOR SANITATION

Practical and efficient

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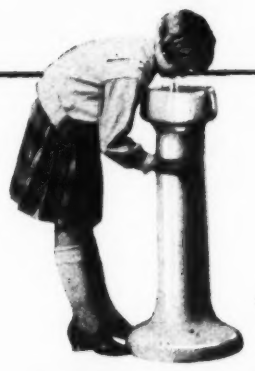
NO other fountains have the same practical, efficient features or advantages that Halsey Taylor Drinking Fountains afford! They are scientifically designed to offer the utmost health-safety to the pupils — that's why so many school board officials and school architects play safe by specifying "Halsey Taylor."

Many new designs in the Halsey Taylor line enable you to carry out your architectural ideas, too!



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Drinking Fountains

AUTOMATIC STREAM CONTROL
Stream is always at practical drinking height, lips need never touch the two-stream projector.
SAFETY FIRST!

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Largest Manufacturers of Drinking Fountains Exclusively

CHICAGO CORRESPONDENCE

The rules of the Chicago board of education do not permit the collection of moneys at the schools. There is one exception. Each year just before Thanksgiving every school takes up a collection for the School Children's Aid Society. This organization supplies needy children of school age with shoes, sweaters, pants, coats, dresses, caps, underwear, and other articles of wearing apparel if, after investigation, the need is found so urgent that the child's attendance in school depends upon getting this help. Last year there were 19,000 requests for aid. The Society has $67,000 to spend. Other agencies contribute money to the funds of the Society besides the school children. For instance, one of the newspapers has always staged a drive for funds, and last year supplied 5,000 pairs of shoes to needy school children. Altogether the society gave away 15,000 pairs of shoes last year. In one school, assistance is given to 334 of its pupils. Schools in better neighborhoods contribute considerable money to the society and get very little help, practically none being needed.

No Chicagoan will admit that there is another city in America as rich and prosperous as the city of "I Will." Yet, for several months the Cook county tax situation has been in such a muddle, and the solution of the difficulty seems so far off, that the board of education is seriously confronted with closing down the schools during a part of 1930 because of a lack of funds.

The 1928 taxes have not been paid because the assessment for 1928 was thrown out by the State Tax Commission and a reassessment ordered. This reassessment has delayed many months the normal payment of taxes. The 1928 tax bills will not be sent out until February 1, 1930.

Worst of all, from the standpoint of the schools, the reassessment has reduced the total revenue for the schools by approximately eight and one-half million dollars per year.

The board of education has authorized its attorney to proceed against the board of assessors in an effort to get more revenue for school purposes. The attorney, Mr. Thomas V. Sullivan, has held as too low, the appraised value of property in the loop, and many other large properties outside the loop. He declares the reassessment has operated primarily for the benefit of millionaire taxpayers and to the detriment of small home owners.

Not long ago he asked permission of the board of assessors to put clerks and appraisers from the board of education into the assessors' offices to study assessment figures and to secure certain data. He was refused permission on the grounds that such action might invalidate the reassessment. To his astonishment, he discovered later that the loop building managers' association had their clerks and appraisers working over the assessors' books and figures and had copied off what data they wanted.

Attorney Sullivan states that $275,000,000 in assessed valuation was taken off the loop by the reassessment over the former assessed valuation figure. He estimates that the loop property owners have secured a reduction in the amount of taxes to be paid of $18,000,000 a year, or $72,000,000 for the quadrennium, by the reassessment. Heretofore, the millionaires and the big corporations who employ lawyers on a yearly basis, file objections to the annual tax assessments and carry their fight into the courts almost as a routine matter. This time there has not been a single objection by a property owner with a million dollars' worth of property or more. When the reassessment program was halted and threatened with failure for lack of funds, the banks donated $250,000 to the cause. Mr. Sullivan points out that though this gift had a semblance of altruism and public service at the time, later events have proved it to be a splendid investment considering the $18,000,000 reduction in taxes for the loop in one year.

Mr. Sullivan speaks well of the reassessment insofar as uniformity of appraised valuations within districts is concerned, but he holds that there are wide variations between districts. He says that the loop district valuations have been set far too low, compared with outlying districts, out where the small home owners live. He cites many examples; perhaps a few will serve to illustrate his points. He says the new furniture mart has $15,000,000 of bonds issued against it, yet it is appraised at a full value of only $10,300,000 for taxation purposes. He says that the Windermere Hotel has $3,000,000 of bonds outstanding, but is assessed for taxation at one $1,000,000. One piece of property at 112th Street and Michigan Avenue, fourteen miles south of the loop business district has been assessed at $4,000 a front foot, while another piece of property in the loop owned by the Bismarck Hotel company, has an assessment of only $2,800 per front foot.

Mr. Sullivan thinks that the bonds which have been issued by some of these concerns are not worth the paper they are printed on, insofar as security behind them is concerned, if the assessed valuations represent true valuations. Of course, from Mr. Sullivan's arguments, he apparently thinks that the bond valuations are more nearly the true valuations than the valuations set for taxation purposes.

It is a not uncommon practice for discrepancies to exist between bond valuations and tax valuations, but there is no excuse for it in Chicago under the reassessment. The law says property shall be assessed at full value. Presumably this was the intention of the reassessors when they undertook their job. However, the board of assessors has notoriously violated the state law when it set a figure of 37 per cent of full value, against which tax rates should be applied. This has been called a "misconduct ratio," for the state law specifically says tax rates shall apply against the full 100-per-cent valuation. It is the application of this 37-per-cent factor which is causing the havoc for the schools, reducing school revenue an estimated $10,-500,000 per year.

The schools must have more revenue, or else retrench by some such plan as the following:

1. Reduce teachers' salaries. Yet Chicago's teacher-salary schedules are considerably lower than those of other large cities.

2. Eliminate special activities such as evening schools, normal college, vacation schools, and so forth. However, elimination of all of these special activities would still leave many millions to be cut elsewhere.

3. The other alternative is to close the entire school system for a month or two during 1930. Of course, this is an indirect way of cutting teachers' salaries, as well as depriving the children of educational opportunities.

It appears likely that a special session of the legislature will be called to straighten out the tangle of finances. (The other taxing bodies are in bad straits, too, e.g., city, county, etc.) The president of the board of education has taken the lead in suggesting that representatives of all the taxing bodies get together, work out a finance program, and then appeal to the governor for a special session of the legislature to put the program into effect.

Mr. E. C. Delaporte, director of physical education of the Chicago board of education, has been lured into another though somewhat related field of work. Mr. Delaporte becomes secretary of the Chicago Athletic Association, at a greatly increased salary.

Great Chain Stores . . .

after experience under severe conditions STANDARDIZE ON VULCAN RANGES

CHAIN stores have been opening hundreds of cafeterias in their stores. Their success has been phenomenal, both in volume of business and in profits.

Realizing that much depended on the cooking equipment, and that it was important to standardize on certain units, test installations were made and the experiences of many users studied before equipment was selected.

The requirements were unusually severe. Low operating cost was absolutely necessary. Large cooking capacity must be obtained in small space. Speed was essential. Dependability, flexibility and low upkeep cost were required.

As a result, Vulcan's superiority was again demonstrated and Vulcan equipment was adopted by these and other chain stores:

F. W. Woolworth & Company
Schulte-United Incorporated
S. H. Kress & Company
Huyler's
Park & Tilford
Loft, Inc.
Acker, Merrill & Condit Co.
W. T. Grant Company
Happiness Candy Stores
F. & W. Grand 5-10-25c Stores, Inc.

Vulcan Closed- and Open-top Gas Ranges, Salamander Broiler and Insulated Bake Oven with heat control comprise a typical Chain Store installation which will do a tremendous amount of cooking in small space. Illustration shows equipment in Monel metal.

Wherever Vulcans are used, in hotels, restaurants, hospitals, clubs, schools and institutions, the same qualities of speed, economy, capacity, flexibility and low upkeep cost make for long continued satisfaction, as is evidenced by constant repeat orders.

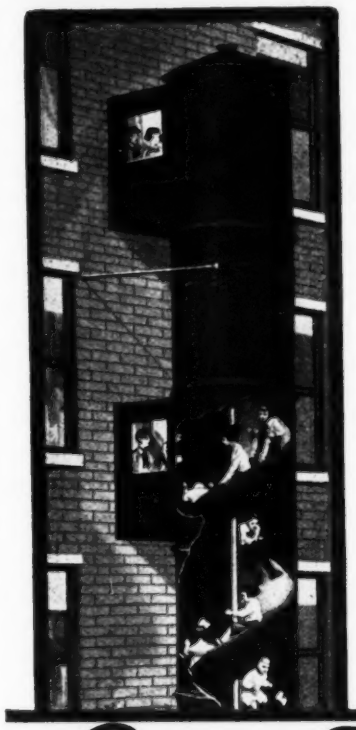
When successful organizations, as a result of satisfactory operating experience, continue to install Vulcan after Vulcan in store after store, isn't it worth *your* while to send for the Vulcan book on cooking equipment?

Hotel Department: **Standard Gas Equipment Corp., 18 East 41st Street, New York.**
Pacific Coast Distributor: **Northwest Gas & Electric Equipment Co., Portland, San Francisco, Los Angeles.**

Among thousands of users of VULCAN *Cooking Equipment are:*

Georgia School of Tech., Atlanta, Ga.
Vassar College, Poughkeepsie, N. Y.
California Preparatory School, Covina, Calif.

VULCAN GAS HOT TOP RANGES



Safety Comes First

The safety of your children is more important than their education.

The school board's first duty is to make sure that "compulsory education" will never be a *compulsory death-warrant* for the pupils.

The Logan Spiral Slide assures complete protection in event of fire.

Write today for full information.

Logan Firescapes

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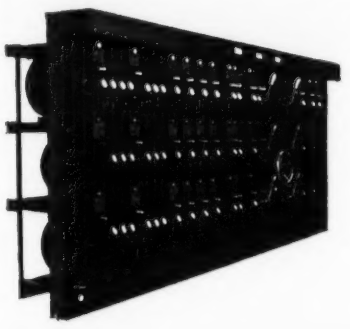
When the Crowd is in the Auditorium —



The Ⓕ Major System provides everyday handling of school auditorium and stage lighting, efficiently and safely. It is the extended remote control feature permitting the instant switching on of lights from any number of desired points that assures maximum protection of audience and children-players.

Let us send you the booklet "The Control of Lighting in Theaters" and help you work out your lighting control equipment problems. There would be of course no obligation to buy.

Write now for information giving details

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MAJOR FA SYSTEM

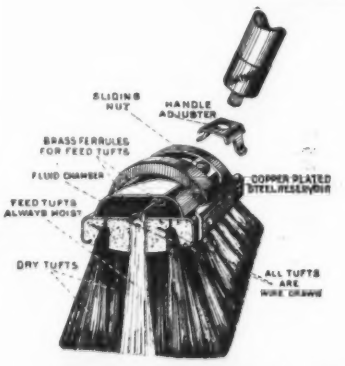
— they are safe with the Ⓕ Major System

Approved by 5000 Schools!

FREE TRIAL

To schools unfamiliar with our brushes, we will send one for 30 days free trial to be paid for only if found entirely satisfactory. Write for one today.

The Dustless Brush eliminates all sweeping compound and floor oil; 97% of the dust (which contains deadly disease germs), and 90% of the usual dusting.



School officials, making a study of their sweeping problems, now realize (1) that sweeping compound and floor oil holds dirt to the floors instead of releasing it, and (2) that sweeping without a Dustless brush contaminates the air with thousands of deadly disease germs. Let us send you a trial brush!

MILWAUKEE DUSTLESS BRUSH CO.
102 - 22nd STREET MILWAUKEE, WISCONSIN

Consider — and compare — the specifications of this DeVilbiss Spray-Painting and Spray-Finishing Outfit Type NK-606. It is fully complete, including the famous DeVilbiss Spray Gun Type CH; *one-half* horse power electric motor; air compressor; 2-gallon pressure paint tank; 24 oz. metal cup for attachment to gun; air and fluid hose and connections sufficient to give a working radius of 20 feet from compressing unit and 12 feet from paint tank. It is compact, motor and air compressor being mounted on a steel base with ball-bearing swivel casters. Weighing but 104 pounds, it is easily transported. It runs with surprising quietness and without vibration.

This is just the outfit you need for general building and equipment maintenance and for manual training departments. It costs with single phase 60 cycle current, but $164.90.

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Direct Factory Representatives in all other Territories!

DeVilbiss
Spray-PAINTING FINISHING System

One School Tells Another
How Sonneborn Products Cut Upkeep Costs

From the Montgomery School, Wynnewood Pa., comes this inquiry, "We have heard through Princeton University that they use 'Lignophol' on their floors. Kindly let us know where we may procure it in Philadelphia." Princeton is only one of hundreds of great colleges and schools that protect wood floors with Lignophol.

Lignophol is one of the seven amazing products described below that reduce school upkeep expense.

FOR CONCRETE FLOORS

Hardening and Dustproofing

LAPIDOLITH — This liquid chemical concrete hardener welds the loose particles into a close-grained mass that becomes granite hard. Excellent for basement or any floor receiving hardest wear. The flint-like topping withstands years of traffic. Water or chemicals do not readily penetrate it. Merely mopping and sweeping keeps a Lapidolized concrete floor sanitary. Goes on like water so labor cost is negligible. Equally efficient for old or new floors. Colorless.

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CEMENT FILLER—For floors where decorative appearance is wanted as for hallways, basement rooms, toilets, etc., apply this material over new or old surfaces. Forms a wear-resisting, smooth, colored top over rough, pitted or soiled floors. Four standard colors. Easy to apply. Labor cost small.

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CEMCOAT FLOOR ENAMEL—Dustproofs and decorates with a glossy, washable, wear-resisting film. Comes in eight attractive colors. Exceptionally elastic. Will stand up where other floor enamels would fail. Dries in twenty-four hours. Special application for basements on floors where dampness is prevalent.

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Wearproofing and Dustproofing

LIGNOPHOL— This penetrating preservative prevents splintering, checking, warping and rotting by filling interior wood cells and fibres with oils and gums. Supplies a toughening binder that increases tensile and resisting power of wood. Safeguards floors against deterioration from dry heat and moisture, and waterproofs.

Polishing

AMALIE Liquid or Paste WAX— Where a more lustrous finish is desired, apply this highly decorative Carnauba Wax. Has high content of Carnauba which is the reason for its long wear. Use liquid for renewing polish on floors previously waxed. Use paste on new or newly treated floors.

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CEMCOAT— For hallways and auditoriums — wherever light is needed use Cemcoat Egg Shell or Gloss—the strongest light-reflecting white paint that is made. Not only does Cemcoat reflect more light, but it stays white after other paints turn yellow. Won't chip or peel. Can be washed over endlessly. Comes also in colors.

SONOTINT— Specially made for classrooms or the library. Its soft, velvety finish reflects light without glare. Comes in 18 beautiful tints that are restful to the eyes. Contains no poisonous ingredients. Washable.

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Index of School Bond Prices[1]

Harold F. Clark, Teachers College, Columbia University, New York, N. Y.

In times of violent change in the price of stocks and bonds, indexes are of particular value. Almost everyone in the country knows that there has recently occurred the most drastic decline on record in stock prices. Does this mean the same thing has happened to bonds? Should the school superintendent be able to sell his bonds more easily or with much greater difficulty than a short time ago? The Index of School-Bond Prices will throw a good deal of light on this problem.

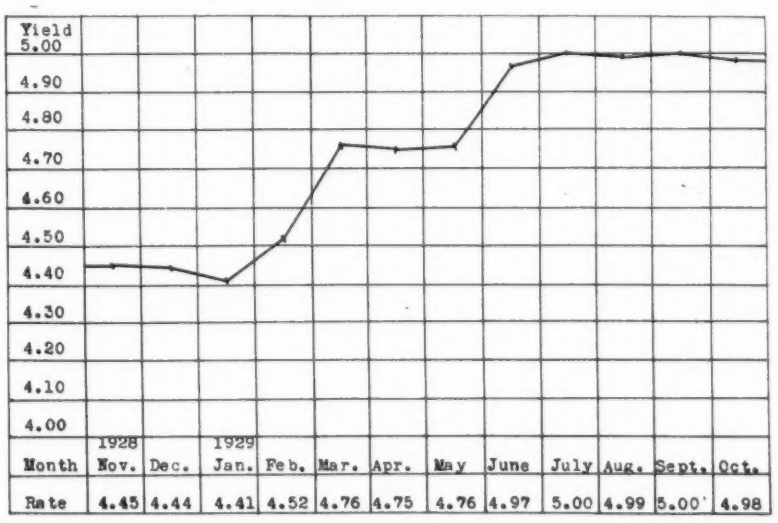


TABLE I. AVERAGE YIELD OF ALL SCHOOL BONDS SOLD DURING THE MONTH

As the Index shows, there has been a drop in the interest cost of bonds. This means, of course, that the price of bonds have gone up at the same time that stock prices have been going through a sensational decline. The reasons for this peculiar situation are not hard to find and will be brought out in succeeding issues of the School-Bond Index.

For several months past, we have called attention to the fact that in all probability no improvement in bond prices could take place until there was some release of credit from stock speculation. All school people who noticed this suggestion were doubtless prepared to see some tendency toward better bond prices when they noticed that along with the great decline in stock prices had gone the largest reduction in brokers' loans in any one week in history. The brokers' loans report, given out on the last day of October, showed a decrease in loans of more than a billion dollars for that one week. The reduction in loans the following week, the first week in November, was well over half a billion dollars. This has released a large amount of money, some of which will doubtless ultimately go into bonds and create a better bond market. Thousands of people who recently thought it was possible to become rich overnight on speculation have changed their minds from bitter experience. Many of these people can see the advantage in buying a 4½- or 5-per-cent bond. Three months ago, many of these people could not have been talked into buying bonds under any condition. These and many other factors doubtless indicate that a real improvement is in store in the bond market.

The Index of Bond Prices for the entire month of October shows a decrease of only .02 of 1 per cent. The decrease for the entire month is small because the great break in stock prices and the fall in bond interest rates did not occur until the very end of the month. Bond interest rates the first week in November were decidedly lower than the index for October would indicate.

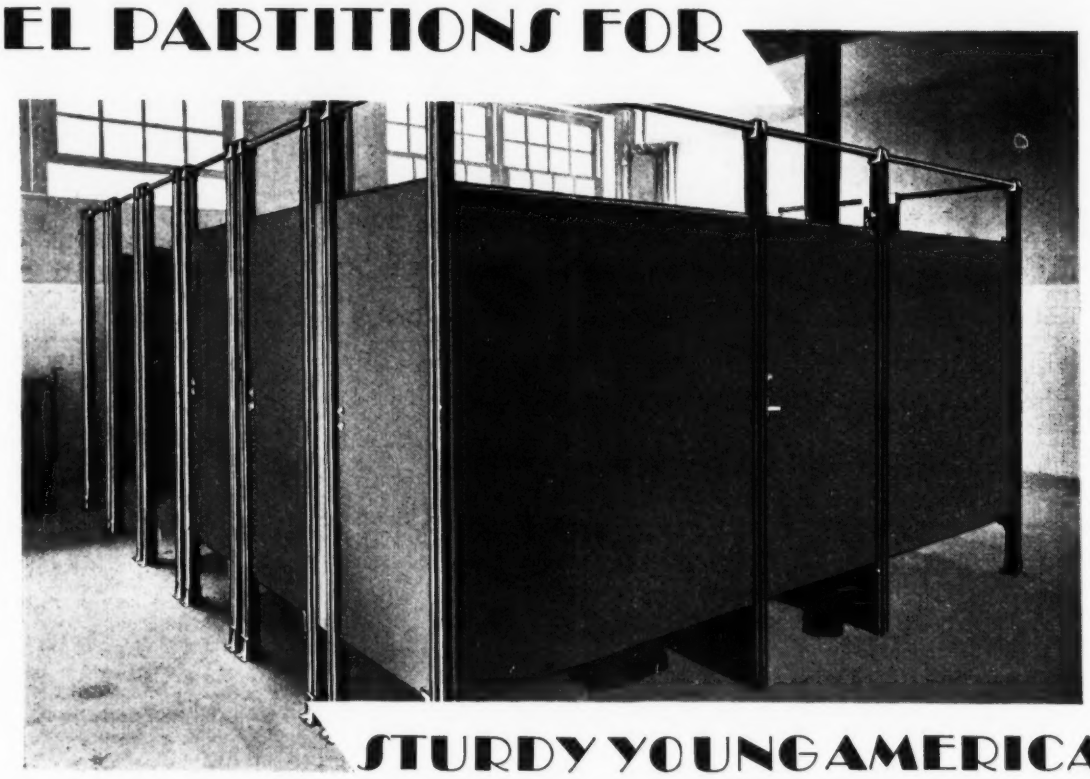
TABLE II
Amounts and Yields of Bond Issues[2]

1.	School bonds sold during the month of October	$ 11,083,300
2.	All municipal securities sold during year (to date)	1,129,680,000
3.	All school bonds outstanding (estimated)	3,263,000,000
4.	Average yield of all school bonds outstanding (estimated)	4.63%
5.	Yield of school bonds of ten large cities	4.58%
6.	Yield of United States long-term bonds (quotation the middle of November)	3.61%

[2]The monthly total of school bonds does not include all the bonds issued in the month, due to the difficulty of obtaining the yield on some of the issues.

[1]Copyright by Harold F. Clark.

STURDY STEEL PARTITIONS FOR



TOILET partitions must be made of sterner stuff than wood or marble or slate to withstand the constant wear and tear treatment they get from today's high-geared youngsters.

Steel's the stuff. Steel partitions of Sanymetal.

Tough, rigid, adequately thick, the Sanymetal Flush Type Toilet Partitions shown here are particularly appropriate for school use. Lined with high quality, sound-deadening asbestos, they reduce noise. The finish is beautiful, practical and particularly long lived. Easily kept clean and sanitary.

Consult with Sanymetal engineers on your next toilet or shower partition installation.

Sanymetal Products for Schools are: Toilet, shower, dressing and urinal compartments. Corridor and smoke screens. Metal doors and wainscot. Sanymetal Gravity Hinges.

Write for New Catalog No. 30.

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STURDY YOUNG AMERICA

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TOILET AND SHOWER PARTITIONS

A rate of 4.98 per cent for October is a slight decrease from September. Unless there are unlooked-for financial events, money rates should continue fairly easy and lead to lower bond interest rates. Unless present indications are drastically reversed, school-bond interest rates should go substantially lower.

The total amount of school bonds sold in August was slightly over $11,000,000. This was somewhat less than the amount sold during the previous month. The highest interest rate carried by any school bond during the month was 7 per cent. This is the first time in several months that an issue was sold as high as 7 per cent. The low issue for the month sold for slightly over 4 per cent. During the coming month some particularly careful school districts may actually sell bonds for less than 4 per cent. This is not to indicate that any school district can sell bonds at that rate, or that a period of really low interest rates for school bonds is immediately ahead. Relatively high money rates may continue for some time, depending largely upon general business and the stock market.

Table IV shows that there has been a substantial drop in the yield of long-term Federal-Government bonds. The preliminary estimate for November is approaching a new low interest level for the year with every prospect that some time before the year is over, new low levels will be established.

Table V shows the drastic reduction occurred in stock prices. In September, stocks reached a new high average for all time. The average for the entire month amounted to 225.2. The first week in November the same Index was standing below 175. This represents a 50-point drop in about a month. On the basis of all the averages, it is the most drastic drop in the history of the stock exchange. There was danger at one time

(Concluded on Page 118)

TABLE III
Bond Sales and Rates[3]

Year	Bond Sales: School	Bond Sales: Municipal	Bond Sales: All Public and Private	Average Rates: Year	Average Rates: Municipal
1928	$240,000,000[4]	$1,413,000,000[4]	$ 8,000,000,000	1928	4.45
1927	266,000,000	1,509,000,000	7,735,000,000	1927	4.49
1926	260,000,000	1,365,000,000	6,311,000,000	1926	4.61
1925	323,000,000	1,399,000,000	6,223,000,000	1925	4.58
1924	288,000,000	1,398,000,000	5,593,000,000	1924	4.26
1923	206,000,000	1,063,000,000	4,303,000,000	1923	4.76
1922	237,000,000	1,101,000,000	4,313,000,000	1922	4.81
1921	215,000,000	1,208,000,000	3,576,000,000	1921	5.18
1920	130,000,000	683,000,000	3,634,000,000	1920	5.12
1919	103,000,000	691,000,000	3,588,000,000	1919	5.04
1918	41,000,000	296,000,000	14,368,000,000	1918	4.90
1917	60,000,000	451,000,000	9,984,000,000	1917	4.58
1916	70,000,000	457,000,000	5,032,000,000	1916	4.18
1915	81,000,000	498,000,000	5,275,000,000	1915	4.58
1914	42,000,000	320,000,000	2,460,000,000	1914	4.38

[3]By special permission, based upon sales reported by the Commercial and Financial Chronicle.
[4]Not final.

TABLE IV
Average Yield of Long-Term Federal Government Bonds[5]

Past Twelve Months 1929	Rate %	Past Six Years Year	Rate %
Nov.	3.61[6]	1928	3.437
Oct.	3.68[6]	1927	3.464
Sept.	3.70	1926	3.544
Aug.	3.72	1925	3.797
July	3.67	1924	4.010
June	3.71	1923	4.298
May	3.67	1922	4.301
April	3.67		
Mar.	3.76		
Feb.	3.66		
Jan. 1928	3.59		
Dec.	3.53		

[5]Taken from Federal Reserve Bulletin.
[6]Not final.

TABLE V
Security Prices and Yields[7]

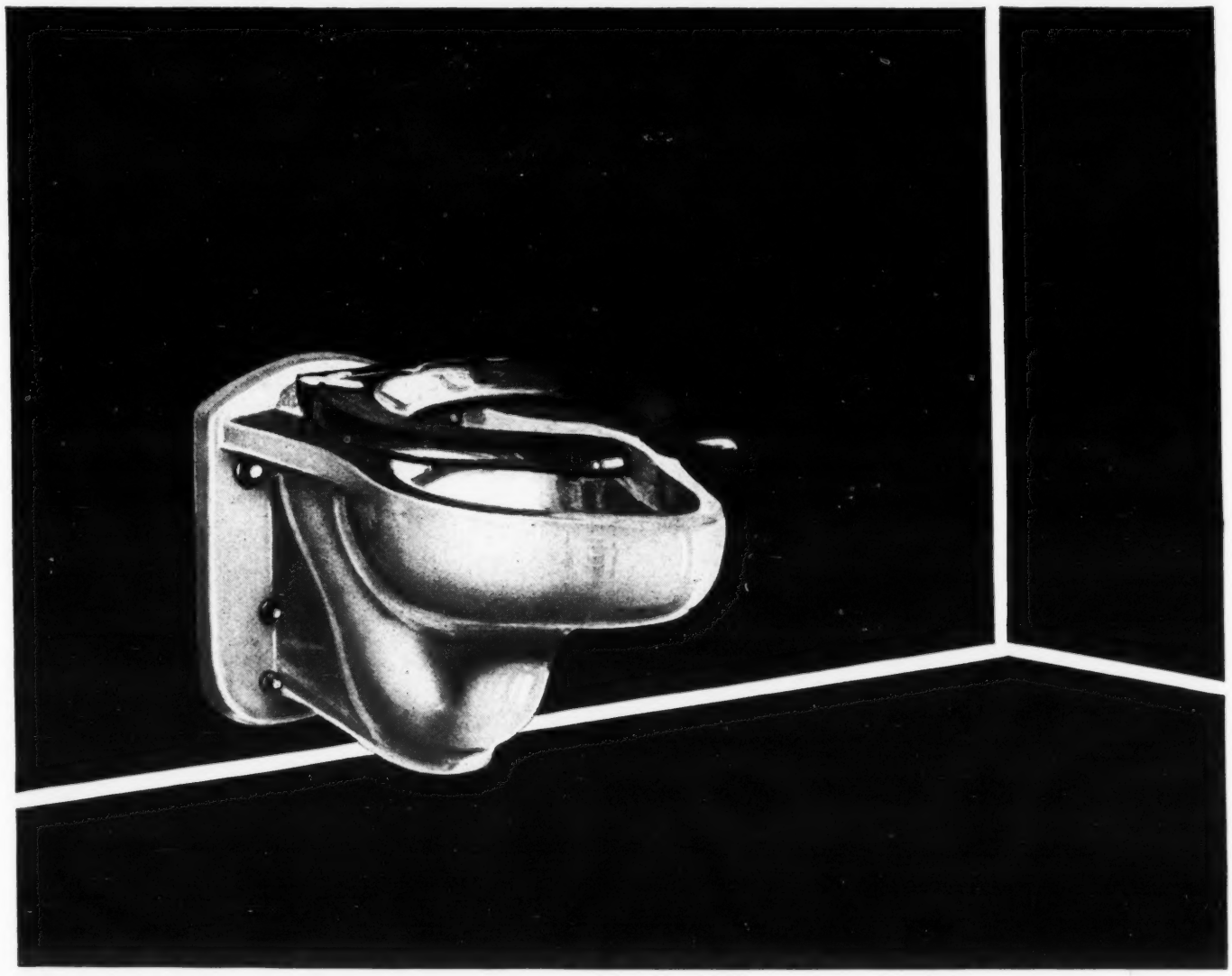
Date	Average Price of 393 Stocks (1926 Average = 100)	Average Price of 60 Bonds	Average Yield on 60 High-Grade Bonds
1929			
November	178.2[8]	95.8[8]	4.69[8]
October	201.7[8]	95.1[8]	4.73[8]
September	225.2	94.8	4.76
August	218.1	95.0	4.74
July	207.2	95.2	4.73
June	190.7	95.3	4.73
May	187.8	95.7	4.70
April	186.6	95.8	4.69
March	189.1	95.8	4.69[8]
February	186.5	96.3	4.65
January	185.2	97.0	4.60
1928			
December	171.4	97.2	4.59

[7]As reported by Standard Statistics Company, Inc. Used by special permission.
[8]Not final.

TABLE VI
Revised Index Numbers of Wholesale Prices[9]

Past Twelve Months Month	All Commodities	Building Materials	Past Six Years Year	All Commodities	Building Materials
1929			1928	97.7	93.7
Nov.	96.2[10]	97.1[10]	1927	95.4	93.3
Oct.	96.7[10]	97.7[10]	1926	100.0	100.0
Sept.	97.5	97.5	1925	103.5	101.7
Aug.	97.7	96.7	1924	98.1	102.3
July	98.0	96.7	1923	100.6	108.7
June	96.4	96.4			
May	95.8	96.8			
April	96.8	97.9			
Mar.	97.5	97.8			
Feb.	96.7	97.5			
Jan.	97.2	96.6			
1928					
Dec.	96.7	96.8			

[9]United States Bureau of Labor Statistics, 1926—100.
[10]Not final.

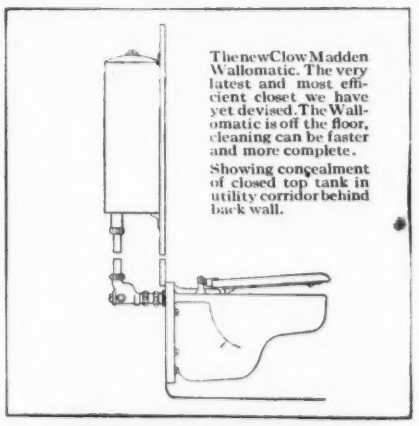


NEVER FAILED...*because someone forgot...*

Clow Madden Automatic Closets never have and *never will* . . fail to flush because someone forgot.

Automatically . . immediately . . a cleansing flood cleans the bowl, from top through trap.

Clow Madden Automatics "carry on" for the life of the building. Records prove them still "young" after 25 years' steady service.



The new Clow Madden Wallomatic. The very latest and most efficient closet we have yet devised. The Wallomatic is off the floor, cleaning can be faster and more complete.

Showing concealment of closed top tank in utility corridor behind back wall.

Record No. 101
After 27 years of high school service at Rock Island, Illinois —29 Clow Madden Automatics are ready for as many more.

The simply-built, stout-hearted Madden Valve . . wastes no water. Cost records are small, as service records are large.

Don't let forgetfulness leave unflushed closets . . and filthy germs to hatch. Health is too precious to place in the hands of a play-thoughtful child . . a hurried workman . . a careless transient.

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CLOW MADDEN AUTOMATIC

Forty-Eight Styles, Heights and Types to Meet Your Requirements

This Winfield School Building is typical of scores of modern structures which now enjoy the benefits of heating supplied by the Dunham Differential System

All over the United States and Canada fine new schools like the Stevenson School of Winfield, Kans., are deriving the advantages offered by the comfort, close regulation and economy of the Dunham Differential Vacuum Heating System. Beyond all possibility of dispute these schools are more comfortable, are more healthful for teachers and pupils and are much more economically heated than those where other types of heating systems are installed. Facts and figures prove these statements. The reasons why such results follow the installation of the Dunham Differential System are worth investigating. Why not ask us to supply you recent data on fuel cost savings, etc.?

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Over eighty sales offices in the United States, Canada and the United Kingdom bring Dunham Heating Service as close to you as your telephone. Consult your telephone directory for the address of our office in your city. An engineer will counsel with you on any project.

The Dunham Differential Vacuum Heating System and individual parts of the apparatus used in that system are fully protected by United States Patents Nos. 1,727,965, 1,644,114, and 1,706,401, and Canadian Patents Nos. 282,193, 282,194, 282,195. Additional patents in the United States, Canada and foreign countries are now pending.

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DUNHAM
This nameplate identifies a genuine Dunham Thermostatic Radiator Trap

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Architect: J. M. Fuller, Winfield
Consulting Engineer: J. M. O'Connor, Wichita
Heating Contractor: McGregor Hardware Co., Winfield.
General Contractor: Phil Frankenfeld, Winfield

INDEX OF SCHOOL-BOND PRICES

(Concluded from Page 116)

that the drastic scaling down of stock values might upset all security values. However, it seems as though the worst damages are over as far as stocks are concerned; and, as the table shows, there has been a real and substantial improvement in bond prices. As a result, bonds can be sold at lower interest rates than for many months in the past.

Table VI shows that the price of all commodities continues to work somewhat lower. Building materials do not seem to be following the same trend so consistently.

A UNIQUE CHRISTMAS PRESENT

The superintendent of schools of Atlanta, Georgia, at Christmas time in December, 1928, requested four presents from the public-school children of Atlanta. The presents requested were as follows:

1. A health certificate from their physician stating that all defects had been remedied and the child was in healthy condition.
2. A dental certificate from a reputable dentist certifying to the same with regard to the mouth.
3. A certificate from a nurse stating that the child was up to the standard in weight.
4. A scholarship certificate from the teacher or principal, stating that the child was above the passing mark in all studies.

The superintendent reported that out of 42,000 white children in the schools, he received all four gifts from 26,000.

CALIFORNIA SCHOOL SUPERINTENDENTS ELECT OFFICERS

The Association of California School Superintendents at its recent meeting elected officers for the year 1930 as follows:

President, Mr. Walter Helms, Richmond; vice-president, Mrs. Catherine G. Van Hooten, Hollister: secretary, Miss Ada York, San Diego; treasurer, Mr. F. F. Martin, Santa Monica.

THE COUNCIL OF SCHOOL SUPERINTENDENTS OF THE STATE OF NEW YORK

The Council of Superintendents of New York met for their forty-seventh annual meeting at the Lake Placid Club, Lake Placid, N. Y., September 30 and October 1 and 2, 1929. The active members of the council are the superintendents in the 59 cities and 78 incorporated villages of New York.

The annual council meeting was very generally attended by the active members. This was especially true of the last four annual meetings which have been held at Lake Placid. They have been accompanied pretty generally by their wives, members of the state department of education, principals of the normal schools, and the bookmen.

The council meeting was one of the best educational meetings of the year. It was held at a beautiful spot under exceptional conditions. The visiting members were adequately housed in the various clubhouses and cottages. The visitors all dined together in the spacious dining room of Laksyd Club House which also has an ample lobby and an auditorium large enough for all its meetings.

The program was largely produced by the members of the council and round-table discussion was generally provided on each topic. This year we were specially favored by several prominent educators outside of council members: John F. Reigert; Hon. William P. Cooper, U. S. Commissioner of Education; Prof. Worth McClure, State Teachers College, Buffalo; Supt. Frank Cody, President, Department of Superintendence, N.E.A., Detroit; and John Klenke, General Electric Co., Schenectady.

The principal topics presented and discussed were: revision of the elementary curriculum; report of committee on the standards for the training of elementary school principals; revision of secondary curriculum; report of committee on financing education; a state-wide program of visual instruction.

An innovation was introduced four years ago of having a less-serious program on Tuesday evening. The first year the superintendents presented fake degrees for almost anything out of the ordinary. The second year the bookmen presented a board meeting where nothing worth while was omitted. The third year the superintendents presented a minstrel show. This year the members of the state department gave us a chance to see ourselves as others see us. They were free to go as far as they liked. They presented a skit representing a small school in actual operation. This presentation involved school officials including board members, pupils, teachers, superintendents, and department specialists. They did not omit anyone and *delicate* compliments were paid most of the superintendents. If we have any fads, fancies, or eccentricities, they were all put on parade.

The business session brought forth the usual number of useless resolutions and one to return to Lake Placid in 1930. If each session keeps on getting better they will certainly be so worth while that the superintendents cannot afford to stay away from the meetings.

The officers for 1930 are: President, Supt. Charles W. Wright, Lawrence, N. Y.; vice-president, Supt. George J. Dann, Oneonta, N. Y.; secretary-treasurer, Supt. E. L. Ackley, Johnstown, N. Y.

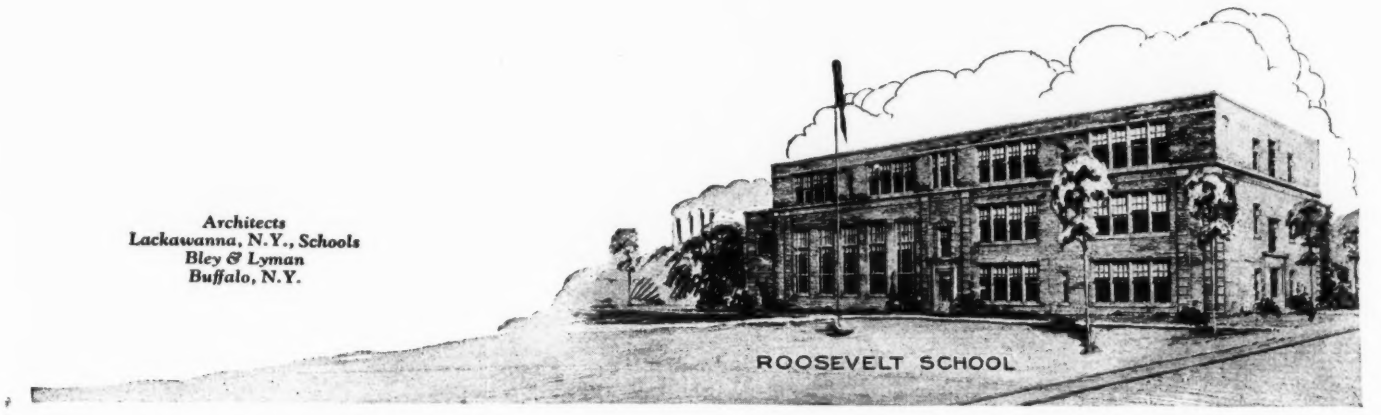
BOARDS OF EDUCATION

—Kenosha, Wis. The board of education has placed $2,000,000 worth of fire insurance with the state department of insurance, instead of with private stock companies. The city has been paying $20,000 over a period of three years for $1,661,000 worth of insurance, and under the new blanket policies, the $2,000,000 worth of insurance will cost $12,000 for the same period.

—Shaker Heights, Ohio. The school officials have adopted a rule forbidding pupils to drive automobiles to school. The rule has been adopted for the protection of the students and to prevent indiscriminate riding after school hours.

—Charleston, Ill. The board of education has adopted a plan for handling the sale of textbooks through the school office. Additional clerical assistance has been furnished to the superintendent for carrying on the work. Under the plan, books are sold to the students at ten per cent above the publisher's net price, where formerly they were sold at prices ranging from 33 1/3 to 45 per cent above the net price. The new arrangement was effected to eliminate the overcharging of pupils of the school district by local textbook dealers.

—Toledo, Ohio. Steps have been taken toward raising funds for a new high-school stadium. Through the aid of its attorney, the board is promoting the incorporation proceedings for the Morrison Waite Athletic Association, which will have charge of the handling of finances for the stadium.



Architects
Lackawanna, N.Y., Schools
Bley & Lyman
Buffalo, N.Y.

They Like it and— *They Say So*

PERHAPS one of the most significant things about PeerVent is its large percentage of repeat orders. Scores of School Boards order a single installation as a "try-out" and find the service so satisfactory that additional orders quickly follow.

The Roosevelt School, pictured above, is one of four completed this year in Lackawanna, N. Y., all the outcome of three prior installations in 1923 and 1924.

PEERVENT UNITS

Not only for schools but also for other public and semi-public buildings.

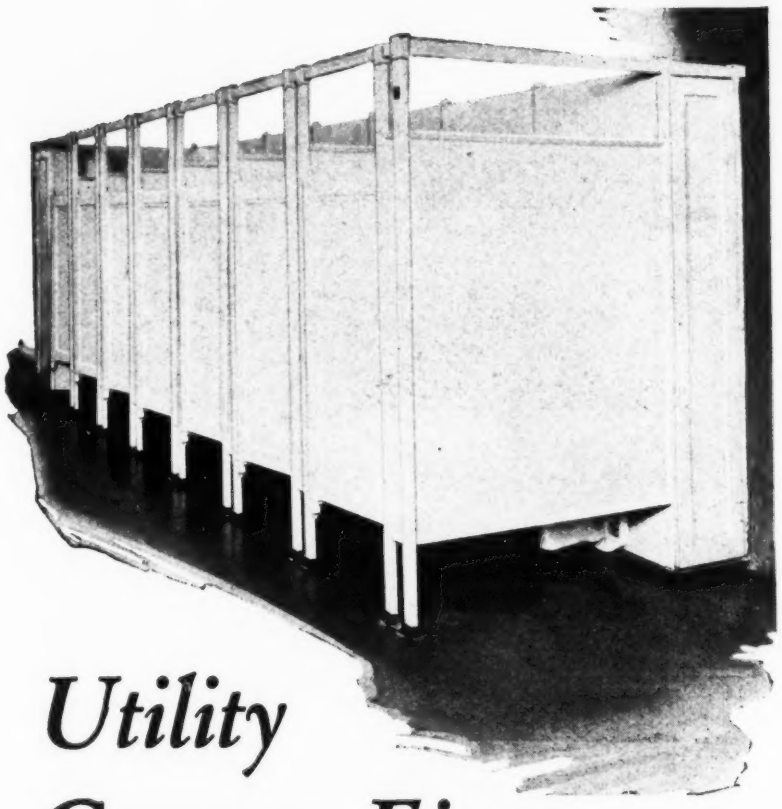
Another interesting case is in Hackensack, N. J. An installation made in 1914 is still giving satisfactory service. For this reason the new school building finished this year is equipped with the latest improved PeerVent Units.

PeerVent offers a service backed by forty years specialization in heating and ventilation, and fifteen years experience in the combined heating and ventilating equipment. Peerless, you know, is the originator of the Unit System of heating and ventilating, and the thoroughness with which it pioneered this field may be judged from the fact that its first year's installations are still giving satisfactory service.

Let us send you the PeerVent booklet which will give you further interesting details.

PEERLESS UNIT VENTILATION CO., INC.
Pioneers in Unit Heating and Ventilating
Bridgeport, Connecticut
Sales and Service Representatives in all Principal Cities from Coast to Coast.

PEERVENT
Heating and Ventilating Units



Utility Comes *First*

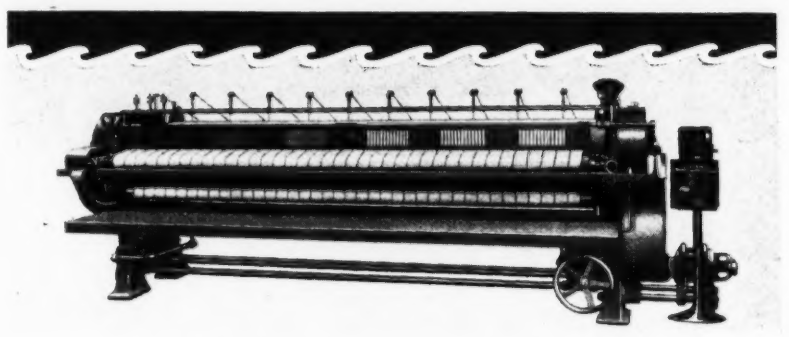
THE primary purpose of school building toilet room equipment is sanitation, protection of the health of the hundreds of children who make daily use of the facilities. WEISTEEL compartments have been designed to fulfill this primary purpose. Pleasing lines, to harmonize with and be worthy of the finest architecture, have been given these partitions without sacrificing the easy cleanability, the plain surfaces which make for sanitation.

The material---copper bearing sheet steel---cannot absorb odors, cannot crack, and is highly resistant to corrosion. With reasonable care, it is practically everlasting. Crevices for the lodgment of dirt and germs have been eliminated; even the hardware---hinges, latches, coat hooks, etc.---has been made to withstand the punishment which hardware usually receives in in public and semi-public toilet rooms.

These utility factors make WEISTEEL the most economical compartment you can specify. We know you'll be pleased with their appearance. A request from you will bring complete information about the features which make WEISTEEL the logical choice for school equipment. . . . HENRY WEIS MFG. COMPANY, INC., Elkhart, Indiana.

WEISTEEL

SHOWER STALLS-COMPARTMENTS-CUBICLES



Troy Standard Two Roll Flatwork Ironer, 100 inch size, showing same-side, single-operation feed and delivery arrangement.

Same side feed and delivery cuts ironing costs in half

BY delivering towels, bed and table linens on the feed side in a single operation, Troy's Standard Two Roll Flatwork Ironer takes but one-half the operating crew usually required. Floor space required is only 152 by 62 inches.

Such economies are characteristic of all Troy machinery. Let TROY SCHOOL ADVISORY SERVICE prepare plans and help select the proper machinery for your school laundry. Troy offers aid and information without charge or obligation.

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DEPENDABLE, uniform quality! Liqua-San is worth more than other liquid soaps because of its unvarying quality . . . yet often costs less in actual use. Highly concentrated, soothing as a lotion. Ask for samples.

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The Liquid Soap

Almost a Half Century ago

N. O. Nelson Company made the first Plumbing Fixtures for School Use

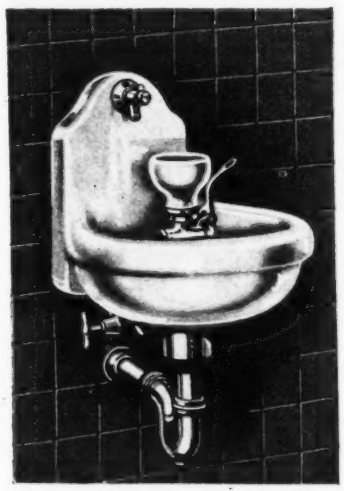


PLATE 4373N

Vitreous china drinking fountain on concealed bracket, lever handle self-closing fountain valve with vitreous china bubbler having concealed pressure regulator, china index push-button faucet. All exposed brass parts nickel or chromium plate.

The first of the famous "NONCO" plumbing fixtures for schools were installed more than forty-five years ago. Yet today, after nearly a half century of continuous use, many of those original installations are rendering daily trouble-free service. Such a record of continuous performance must be due to fundamentally correct design and honest manufacture.

Just as the original "NONCO" fixtures pioneered the field of school plumbing—so the "NONCO" fixtures of today offer the utmost in advanced design. For never before have utility, appearance and freedom from trouble been so combined with economy as in the modern "NONCO" plumbing fixtures for schools.

If you are planning on building or are to modernize an older school, you will want the most up-to-date information on school plumbing. Our engineering department will be pleased to correspond with you without the least obligation.

"PLUMBING NONCO FIXTURES"

N. O. NELSON MFG. COMPANY

Main Office: St. Louis, Missouri

THE PAYROLL PROCEDURE FOR THE PUBLIC-SCHOOL SYSTEM

(Concluded from Page 46)

"time sheet" which shows: (1) the name of each employee, (2) rates of pay, (3) total amount due, (4) total hours worked for each day of the payroll period, (5) and the distribution of labor costs by schools. The foreman reports the time sheet to the payroll department at the close of each week with all of the employees' time cards.

A payroll sheet designed to show the same information contained on the time sheet with the proper certification, can be kept in the payroll office, and the time of the workman posted thereon daily from the time cards. This provides the only summary of the workman's time necessary for payroll purposes. No distribution of labor costs need to be shown on the payroll. Under such a system any workman's record may be traced back from the payroll sheets to the time cards and work orders, and show every job he has worked on, the class of work, time spent, etc.

Principles for Payroll Procedure

From the preceding study we may summarize the following principles of payroll procedure:

1. It is desirable that the payroll department anticipate and avoid misunderstanding by making sure that every employee is informed what is expected of him, conditions of his employment, and the plan by which he will be paid.

2. The work of preparing the payroll falls so far as possible upon the central office. Principals should not be unduly burdened with clerical work involved in this field.

3. The time report which principals submit concerning teachers' absences carries all data required for action upon pay allowances for absence. Such pay allowance is best regulated from the central office and not by individual schools.

4. Payroll procedure, in general, must be so planned that all payments of employees be executed promptly and without undue haste in any phase of the procedure.

5. It is advisable that payroll accounting forms be accumulative, thus reducing the duplication of names to a minimum.

6. The employment department must be held responsible for a complete file of all contracts and record cards of all employees at the beginning of each school year.

7. The superintendent must notify the payroll department of any change in an employee's position or salary and furnish records for all new employees. The business manager must render a corresponding —— for all business department employees.

8. All practices necessarily must be consistent with the state school laws.

9. All procedure should be as simple as possible, avoiding all unnecessary overlapping or duplications.

10. Practices must be uniform for the entire system, and rules and regulations are to be constantly enforced.

11. Payroll management is a function of the business office of the school system and not of the members of the school board.

12. It is essential that there be definite contractual statements for regular teachers, substitutes, and other employees.

13. As a basis of all payroll procedures, the board of education must prepare and approve a set of rules and regulations in regard to: (1) The length of (*a*) the school term, and (*b*) all employees' terms, (2) school holidays, (3) deductions for absence, pensions, and refunds, (4) dates and periods of payment, (5) place of payment, (6) manner of payment, (7) operation of the salary schedule, (8) release from contracts.

14. No payments may be made in cash.

15. Payments must be made promptly.

16. Every payroll plan should provide an efficient and satisfactory way of correcting mistakes.

Graphic Presentation of the Payroll Procedure

It is advisable that the payroll procedure for every school system be put into graphic form. The advantages of having the payroll-procedure chart are pointed out by W. C. Bober: "The great value of the chart to the executive lies in its reducing the process of mental visualization to a minimum. Suppose he wants to get some information about the way in which the payroll is distributed. Much time and effort is saved if he can call for the "payroll-procedure chart" and see at a glance the relations between the functions and the duties of the individual, the forms and figures involved, etc. The interrelation of things is visualized physically, thus relieving the executive of the burden of visualization, mentally, a process which is both very ineffective, and by causing mental fatigue is probably the main brake on supervision and executive action.[2] If a chart of the whole procedure, of the entire school system for that matter, is placed before those employed in the office, each one can see the relation of his part of the work to that of his neighbors and to the system as a whole. It will serve to encourage the employee to get training necessary to perform any and every function covered by the school system. A chart is also of value in supervision and the changing of personnel.

The chart must be an accurate and a time picture of the plan, showing each step in its proper order, and indicating the duties and responsibilities of each worker involved. It should be as simple and as direct as possible and easily read. The necessity of using a key should be avoided for, when the chart becomes complicated, it fails in its purpose.

Chart 6 proposed for the payroll procedure as discussed in this paper is based upon the California law and upon practice in certain California cities. Local conditions will suggest variations.

[2] "Graphic Planning of Payroll Procedure," Industrial Management, Vol. LX, pp. 336–337.

TIME WILL NOT BRING COSTLY PLUMBING REPAIRS AND REPLACEMENTS IF YOU SELECT FOR THE FIRST INSTALLATION

CRANE

FIXTURES, VALVES, AND FITTINGS. FOR 74 YEARS, AND IN SCHOOLS THE WORLD OVER THEY HAVE PROVED THEIR DEPENDABILITY

WHAT THE SCHOOL CLERK DOES

(Concluded from Page 48)

summary of promotions, for example, will not be the means of his losing contact with a valuable index of school efficiency, but will enable him instead to devote more attention to a critical analysis of promotion figures. Principals must not lose their perspective under this new situation.

An interesting side light is thrown upon changing methods of teaching by the large amount of mimeographing of instructional materials reported by the clerks. Teachers are evidently supplementing widely the regular textbooks and utilizing informal tests and drills in their efforts toward greater individualization.

The Clerk and the Public

The strategic position of the school clerk as an interpreter of the schools to the public is emphasized by the importance of the clerk's contacts in meeting and handling people. Here is certainly one point at which training, both preliminary and in service, should be directed, and to which the principal must give constant supervision.

The study also reveals the fact that preparation for the performance of certain duties should be included in the school training, that some of these must be followed up "on the job" and that still others are peculiarly a part of training in service.

In conclusion, let it be reiterated that the office problems of Seattle elementary schools have not been solved. Progress in this direction must of necessity be evolutionary. It is believed, however, that by isolating some of the problems involved in office routine, everybody concerned — clerks, principals, teachers, and superintendent's office — may be the better enabled to give constructive aid to the improvement of instruction, which is the chief function of the school principal.

Bibliography

Books

Charters and Whitley, Analysis of Secretarial Duties and Traits, Williams and Wilkins, 1924.

Cubberley, E. P., The Principal and His School, chap. X, "Business Organization and Administration." Houghton Mifflin Co., 1923.

Gist, Arthur S., The Administration of an Elementary School, Scribners, 1928.

Yearbooks and Periodicals

Fisher, J. G., "Inquiry into the Training of Assistant Principals," Journal of Educational Method, June, 1926.

Henderson, Louise H., Clerical Service in City School Systems, Eighth Yearbook, Department of Elementary School Principals of the N.E.A., 1929.

Kuehney, Menlo, S., "The Effect on the Use and Distribution of the Elementary-School Principal's Time by the Adoption of Daily Schedules or Programs," Bulletin, Dept. of Elementary-School Principals of the N.E.A., October, 1925.

McClure, Worth, "The Functions of the Elementary-School Principal," Elementary-School Journal, March, 1921.

McGill, Eunice, "A Study of Clerical Help for Elementary School Principals," Sixth Yearbook, Department of Elementary-School Principals of the N.E.A., April, 1927, pages 229–234.

Schroeder, Esther L., "The Status of the Assistant Principal in the Elementary School," Fourth Yearbook, Department of Elementary-School Principals of the N.E.A., chap. XXIII.

Stanton, Edgar A., "Saving Time in Office Routine," Elementary School Journal, December, 1927.

Seventh Yearbook, Department of Elementary-School Principals of the N.E.A., chaps. XI and XII, "The Elementary-School Principalship."

White, "Teacher-Clerk's Opportunity," Bulletin, Department of Elementary School Principals of the N.E.A., January, 1927.

EDUCATIONAL SPECIFICATIONS FOR SCHOOL BUILDINGS

(Concluded from Page 44)

Accessory rooms

Interrelated rooms

Location and orientation

Equipment

THE PROGRESS OF HEARING TESTS IN AMERICAN SCHOOLS

(Concluded from Page 59)

child at six different times. It is evident from these charts that such variations do occur in such young children. Dr. Fowler's research work with children has shown that these marked variations in hearing are fundamental signs of varying pathology in the ear which needs attention.

Suggestive Program for Testing School Children

In conclusion, let me summarize the program which the American Federation of Organizations for the Hard of Hearing is recommending for school children.

1. Preliminary testing in classes (groups of 40) in a quiet classroom, with the phonograph-audiometer and questionnaire history, by a competent tester and an assistant.

2. Retest of the border line cases (about one fourth of the total) on the following day.

3. Tone range audiometer test of those remaining in the deafened class after such a retest.

4. Careful otologic examination and diagnosis by a competent otologist.

5. Careful filing of the records, so that changes may be noted, and knowledge as to the detection of incipient cases and progress of promising cases gained.

6. Regular yearly testing of the whole school by the foregoing procedures.

7. The establishment of special clinics, probably as departments of our present hospitals, for studying and for handling difficult cases.

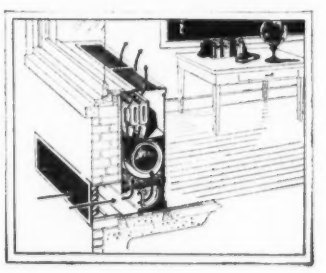
8. Special classes for lip reading should be provided in each school during school hours for the deafened child, which should be conducted by teachers trained to impart this knowledge. (This is now being done very efficiently in several schools.)

9. Special schools for the deaf should be provided for those having a great hearing loss. The amount of deafness requiring this special care should be determined from experience, after the first method of teaching has been put into practice.

The American Federation of Organizations for the Hard-of-Hearing is striving to interest the nation in this vital matter. Many educational authorities are now seeing its importance and have a program to take care of the deafened children; others are getting ready for action, and it behooves all health workers to do their part in this hitherto neglected work.

Windows Closed!

---but you don't have to deny them clean, pure air!



WINTER means closed windows...sometimes classrooms almost hermetically sealed.

Stuffiness, odors, overheating—are common conditions in hundreds of schools during the winter months.

But Unit Heater-Ventilators will provide school children with clean, pure air, warmed to precise temperatures—without dangerous drafts—without any care on the part of teachers!

SILENCE of operation is a Sturtevant achievement. Then the controlling mechanism is so simple in a Sturtevant...It may be entirely automatic or equipped for manual operation if desired.

Many actual photographs of Unit Heater-Ventilators in schools of different sizes—in different localities—are found in our Catalog 361. May we mail you a copy?

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THE best possible cleaning material is the one that does the most work, in the least time, at the lowest cost. In your experiments with various compounds to find one that fits these requirements, try Oakite, and see how easily, quickly and thoroughly it works. You will realize that here is the cleaning material on which you can safely standardize.

Oakite's irresistible emulsifying action makes it better, faster and more economical to use than other materials. A little Oakite in warm water removes chalk from blackboards, removes dirty discolorations and ink from desks and chairs, makes walls and woodwork look like new, thoroughly cleans cafeteria equipment.

Our near-by Service Man can give you facts and figures to prove that this effective material saves money on every school cleaning job. Write and ask to have him call. No obligation, of course.

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Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the United States and Canada.

THE CAMPBELL OPEN-WINDOW SCHOOL FOR DELICATE CHILDREN

(Concluded from Page 55)

the room daily to advise, instruct, and check on the health habits of the pupils, and regular home calls are made to keep the parents in touch with the progress of the school program, and to keep the nurse informed as to health practices at home.

As a result of the operation of the open-window room, considerable improvement has been noted in the physical condition of the children. Each child gained an average of 4 4/5 pounds in weight, which is approximately two pounds more than the average for similar groups in other schools. All the children improved in scholarship, they acquired a fondness for good food, their physical condition was greatly improved, and they gained a knowledge of good health habits and their effect on growing children.

OPEN-WINDOW ROOM IN THE CAMPBELL SCHOOL, LA SALLE, ILLINOIS, FOR DELICATE AND UNDERNOURISHED CHILDREN

REGULATING PAPER COLLECTIONS

The school board of St. Louis, Mo., has adopted a report of the instruction committee providing that the collection of waste paper for the benefit of the teachers' benevolent annuity association shall be permitted in schools which adhere strictly to the regulations laid down. These regulations are as follows:

1. That all ill-advised competitive appeal be eliminated.
2. That only clean paper be brought to the schools thus preventing an accumulation of a large amount and making the work a burden on the pupils.
3. That the practice of scouring the neighborhood for paper be absolutely discontinued.
4. That the weighing and sacking of paper be provided for outside the buildings and under the care of the custodian where arrangements may be made.

Principals and teachers have been asked to cooperate in carrying out the regulations.

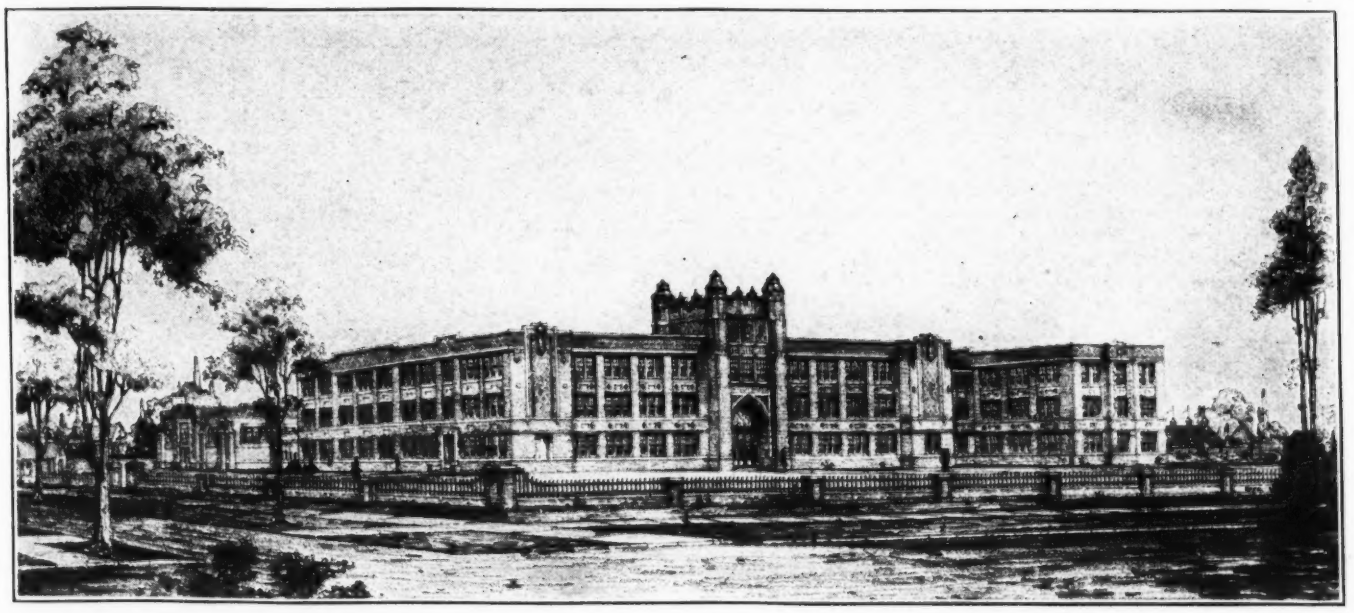
THE TEACHER UNEMPLOYMENT PROBLEM

Over 3,000 trained teachers in New York City are out of positions. The subject has been discussed with a view of finding some relief. Joseph C. Gainsburg, chairman of the School Problems Committee of the Brooklyn Teachers Association has suggested three practical remedies.

One of these provides an extension of the sabbatical leave from six months to one year. The second asks the employment of teachers for the care of backward students. It also suggests smaller classes and more teachers.

"The third and only real solution," says Mr. Gainsburg, "would be to get a greater appropriation from the city so that the Board of Education would be able to hire the surplus teachers. This would mean an appropriation of more than $1,500,000 annually for this purpose alone. I believe, however, that it is well worth the city's money to handle the unemployment among the teachers in this fashion. By employing the extra teachers classes could be made smaller. This is something we all realize should be done any way. Then again, it would mean some more school buildings to take care of the extra classes. The need for more schools is as well recognized as the need for smaller classes."

BUCKEYE Heatovent



CAPITOL HILL SENIOR HIGH SCHOOL — OKLAHOMA CITY, OKLAHOMA

Architect: Layton, Hicks & Forsyth *General Contractor: Tankersley Construction Co.* *Heating Contractor: J. D. Mann Plumbing Co.*

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The Capitol Hill Senior High School Building pictured above, is part of Oklahoma City's school building program. Buckeye Heatovents were chosen to deliver fresh, filtered, tempered air to each room of this fine, modern school building.

All seven of the other school buildings in this program also are equipped with Buckeye Heatovents.

From North to South, from East to West, in thirty-seven states and Canada, modern School Buildings are being ventilated by The Buckeye Heatovent System of heating and ventilating.

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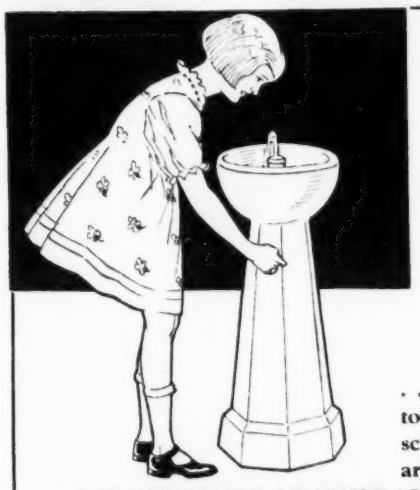


SANITATION

is the first consideration in a SCHOOL DRINKING FOUNTAIN

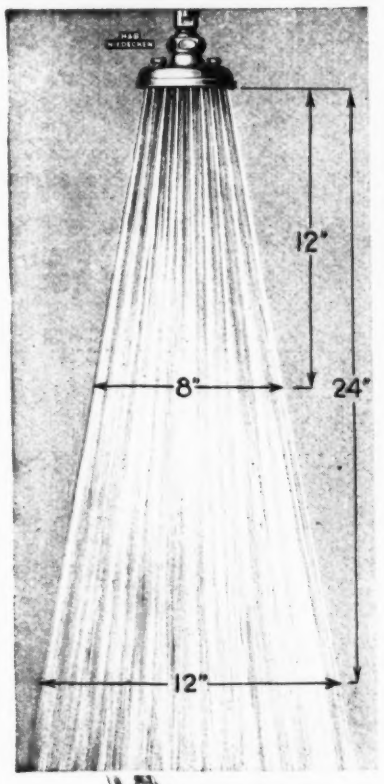
. . . and, after sanitation, other factors which determine the choice of school drinking fountain equipment are ECONOMY OF OPERATION and PROTECTION AGAINST "SQUIRTING". CENTURY Fountains have been guarding the health of America's school children since the days when CENTURY *pioneered* the drinking fountain field. Now the new *Automatic* CENTURY Bubbler Head, with patented equalizing piston, regulates the height of the stream more efficiently than any other bubbler head in use . . . eliminates water waste and reduces drinking water costs . . . prevents "squirting" . . . forms the drinking mound at just the right height, preventing the lips from touching the bubbler in drinking . . . is thoroughly SANITARY.

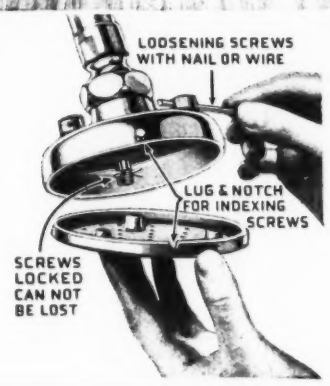
Every school management should have the FACTS about drinking fountains. WRITE for them.

CENTURY BRASS WORKS, INC.

102 N. Illinois St. Belleville, Illinois

Century SANITARY DRINKING Fountains





AVOID WATER WASTE

Water waste is greatest in schools. You owe it to tax payers to specify

NIEDECKEN SHOWERS

to cut down water bills, repair bills and other shower trouble costs. The illustration shows the usual shower spread, but because of the radially drilled *Niedecken* shower face, less water is used.

EASY CLEAN FEATURE

For cleaning, the face of the *Niedecken Shower Head* is removed and replaced very easily and securely. The illustration shows the patented *Niedecken* lug and notch feature which guides and facilitates the reassembling.

Write now for bulletin—Niedecken Showers, Shower Stalls and Mixers.

HOFFMANN & BILLINGS MFG. CO.

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The WAYNE

SAFE STEEL SECTIONAL GRANDSTAND

For the School With a Small Budget for Seats

Many schools have added to their original investments in Wayne Stands; for example, one High School has increased its stands three times in seven years.

Write for complete information.

WAYNE IRON WORKS

PEMBROKE AVE., WAYNE, PENNA.

Representatives in Baltimore, Md., Cambridge, Mass., New York, Milwaukee, Wis., Omaha, Nebr., and Pittsburgh, Pa.

BASKET BALL EQUIPMENT

Manufacturers of the Famous

SHOMMER "METAL" BACKBOARDS
SHOMMER "VITROLITE" BACKBOARDS
PORTABLE FOLDING BACKSTOPS

Ask About the New "Rigid" Goals. No Side Braces. New Net Attachment.

BASKET BALL EQUIPMENT SPECIALISTS.

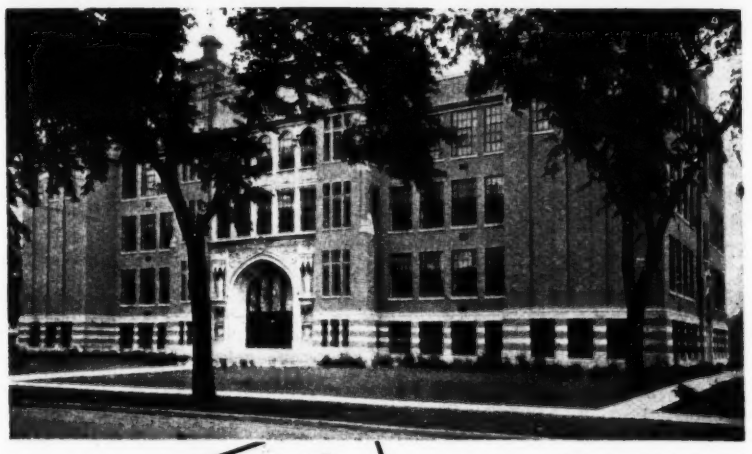
SEND FOR GYMNASIUM CATALOG.

CHICAGO GYMNASIUM EQUIPMENT COMPANY

1835 W. LAKE ST. CHICAGO

"and shall continue to use CAR-NA-VAR"

TRADE MARK REG. U.S. PAT. OFF.
THE PERFECT FLOOR TREATMENT



Madonna High School
Aurora, Illinois.

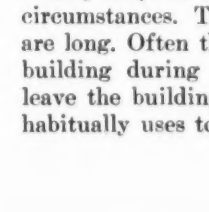
MADONNA HIGH SCHOOL
Root St. and College Ave.
AURORA, ILLINOIS.

July 29, 1929

Continental Chemical Corporation
Watseka, Illinois.

Gentlemen:
For the past two years, we have been using Car-Na-Var on the floors of our classrooms; and also on the terrazzo floors in the corridors. We are pleased with the results of this treatment of the floors, and shall continue to use Car-Na-Var in our school.

Yours very truly,
Sister M. Confirma
School Sisters of St. Francis.



Applied with a mop—dries in ONE HOUR —quickly polished.

The above statement, after two years use, can only mean absolute satisfaction. Hundreds of School Officials feel the same way toward CAR-NA-VAR.

A SCIENTIFIC TREATMENT

Based upon the COMBINATION OF varnish and wax into ONE FLOOR TREATMENT, CAR-NA-VAR offers advantages never before possible. The wax lends pliability — preventing furniture mars or "drying out" of the floor surface. Varnish gives brilliancy to the finish. Also long wearing life. It's supplied in "Natural" and colors.

CAR-NA-VAR is very economical to use.
Write for full details and price quotations.

Continental Chemical Corporation

Watseka 219 Scott Street Illinois

Service Branches and Warehouse Stocks from Coast to Coast.

THE PERSONAL QUALITIES OF A SCHOOL JANITOR-ENGINEER—II

(Continued from Page 36)

with hot water and soap for washing his face and hands. The room must be provided with a mirror. With such provisions there can be no excuse for an unkempt appearance on the part of janitors and engineers. The same, but separate provisions, must be made for women janitors where they are employed.

Uniforms Make for Respect

It may add to the dignity of his position if the janitor-engineer wears a uniform. In this case he should have two or more uniforms so he can keep them washed and ironed. Whether or not he has a uniform, his clothes should be of dark colors and kept neatly pressed. A dark suit, of a quality sufficiently good to hold its shape, and a dark flannel or cotton shirt, are desirable. Shoes should be black and kept polished. The janitor's necktie will last longer and present a neater appearance if it be a plain, black tie. If janitors work in their shirt sleeves they should, for appearance sake, wear a belt rather than suspenders. A vest should not be worn over a shirt unless a coat is also worn, and even then it will be found that a vest is restrictive and an inconvenience.

In some cities the prestige of the janitor-engineer is increased by investing him with the badge of a special policeman. This adds dignity to his position and encourages him to give more attention to his appearance. In at least one state there is a law which requires that janitor-engineers, as custodians of school buildings and grounds, shall be sworn in by the police departments of their respective cities and granted a policeman's insignia, as special police, with power to make arrests either of pupils or others for misdemeanors occuring on the school premises. As custodians of valuable public property, this provision would seem to be a wise one.

With hair kept cut and combed, a daily shave, clean face and hands; neat, clean, and pressed clothing of a dark color, the janitor-engineer may freely pass about his building feeling that his personal appearance is in harmony with the excellent condition of cleanliness in his building, and that the influence of his presence in corridors and classrooms will not be detrimental to the formation of good habits and ideals by the children of the school. He will then be accorded the respect of teachers and pupils to which he is rightfully entitled.

Similar requirements apply to the personal appearance of women janitors. Personal cleanliness and neatness of dress are essential. Hair must be kept combed and done up. A clean, plain uniform dress should be worn with serviceable, low-healed, black shoes.

Clean Speech Indispensable

2. *Speech, Voice, and Bearing.* The janitor-engineer must use clean speech at the school, both during and outside of school hours. Profane and indecent language by a school janitor is inexcusable. Nothing will better insure his success in this than that he use clean speech at all times wherever he may be. His voice should be quiet and pleasing. A voice that is harsh, whining, mumbling, or too highly pitched, will add to the irritability and nervousness of pupils and teachers. Loud and boisterous talk cannot be tolerated in a school building. The janitor must also be a man of poise and good manners. He must go about his work in a businesslike way.

3. *The Use of Tobacco.* Should the janitor or engineer use tobacco at the school building? Preferably not, but this will depend somewhat upon circumstances. The hours of janitor-engineers are long. Often they must remain at the school building during the noon hour. They cannot leave the building during the day. If a janitor habitually uses tobacco it would seem that long hours without it might react unfavorably upon his disposition. The use of tobacco would seem to be an insufficient reason for disqualifying a janitor if he were otherwise a good janitor. We all know that many men of good character use tobacco. In a large number of schools observed by the writers in which janitor service was notably good, it was found that more than half of the janitors used tobacco. Most of them used it in their quarters in the basement. Twenty-nine of 32 janitors in the Denver schools reported to the writers that they smoke in their quarters in the school buildings. Thirty per cent of 203 janitors reported from the schools of the Rocky Mountain Region stated that they smoke in school buildings.

Janitors Do Smoke

The practice of janitor-engineers in the use of tobacco varies in different school systems. The following are probably typical.

City A

Do not smoke in school buildings	15
Smoke in janitors' office or furnace room	4

City B

Do not smoke in school buildings	4
Smoke in janitors' office or furnace room	13
Smoke in corridors during school hours	1

If janitor-engineers are permitted to use tobacco in school buildings, they should do so in properly ventilated janitors' quarters or in a furnace room set apart from the main building. Janitors should never smoke or chew tobacco in the corridors or classrooms, in the basement directly under the school building, nor on the school grounds. Care must be exercised that the odors do not permeate the buildings. The reason for this caution as to where janitors may use tobacco is not so much the concealment of the fact that they use it, as that the odors are disagreeable to many teachers and pupils, the school building is not a proper place for such odors, and the example is not a good one to set before young boys.

Let BOWLUS CLOSETS *with the famous* JEWEL FLUSH VALVE

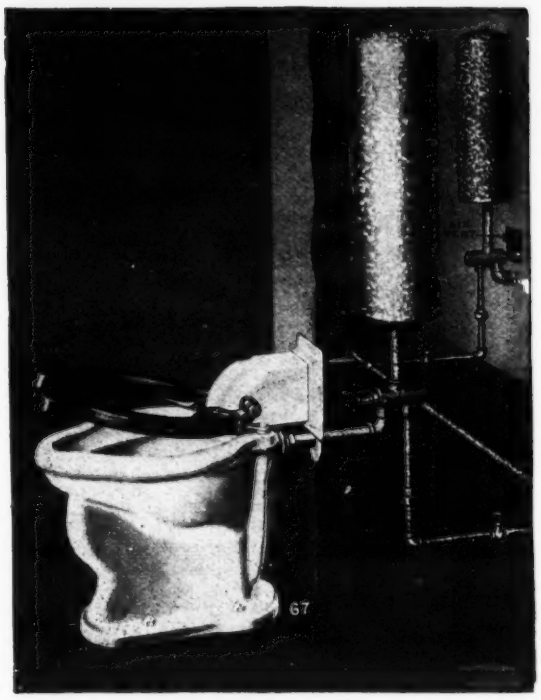
Solve your Plumbing Difficulties!

Seat action closets are generally acknowledged as preferable for all installations where children are involved. There is a difference, however, in seat action closets. Certain patented features found only in the famous Jewel Flush Valve make it the most practical, economical and trouble-free valve for school use.

The Jewel Flush Valve has no interior springs to rust, corrode, lose resiliency and cause trouble—no treacherous needle valve to require constant adjustment. The operating springs of the Jewel Flush Valve are in the seat hinges where they belong, and they serve but one purpose—to lift the seat. Valve action is positive because the single valve stem is linked directly to the seat itself. Simplicity means reliability.

Compare the Jewel Flush Valve with other automatic valves—then you will insist on the famous BOWLUS-JEWEL combination.

Write today for descriptive literature and endorsements from school officials, schoolhouse architects, and others from all parts of the United States.



Many states now require the individual ventilation of every bowl, and Jewel Units especially designed with rear vent for use in Utility Room Installations are the choice of far-sighted architects and schoolmen. Reasonably low in maintenance cost, and backed by a positive five-year guarantee which it far outlives, the Jewel is a money-saving installation.

The BOWLUS MANUFACTURING CO.

600-610 East Main St. *Springfield · Ohio*

4. *The Janitor's Home and Car.* The writers have first-hand knowledge of instances in small communities where school janitors own residences that are among the best kept and best appearing in the community. Unfortunately, such is seldom the case; the homes of some school janitors are a disgrace to the responsible positions they hold. It is not at all suggested that a janitor live beyond his means, but it would be a wise expenditure in many instances for the janitor to buy paint for his house and to plant flowers and shrubs on his lot. Some janitors own new and moderately expensive cars, but the janitor's car is too often a cause of disrespect. An old, inexpensive car can at least be kept clean. Attention to the home and car will yield ample returns in the janitor's own heightened self-respect and the community's favorable reactions.

To Summarize

School janitors should be selected on the basis of desirable personal qualities. Health and physical vigor are essential. They must have a right attitude toward their work, which means that they should love their work, be enthusiastic and cheerful, have good natures and a love for children, be honest and willing to accept responsibility, and have a scientific attitude toward their work. School janitors should have the ability to get along well with others which means that they must be able to see situations from the viewpoints of pupils, teachers, and the principal, to be adaptable and resourceful in fitting their work schedules to changing school schedules, attend to their own business, and at all times be courteous, cooperative, tactful, and self-controlled. They must be industrious and not try to shift part of their work to teachers and pupils. They must avoid participation in community dissentions and should be prompt in paying their debts. Appearance and personality are important characteristics in janitors. They should dress neatly and keep their clothing and persons clean. They should have a quiet, pleasing voice and bearing, and should avoid profane language. If tobacco is used at all, its use should be limited to properly ventilated janitor's quarters.

CONTRACTING FOR SCHOOLHOUSE EQUIPMENT

(Concluded from Page 37)

Part of this may be true. However, there is no reason to believe that the public would be much better off if the specifications were too definite in naming the products. In that event certain companies could enjoy a monopoly and almost fix their own prices. Competition is one of the best safeguards the public has when contracts are let for school-building construction. School equipment and supply concerns are not justified in asking for closed specifications from the standpoint of the public welfare. But this makes their job of salesmanship more difficult and is one reason why the writer has been so bothered and vexed over the attempts of the salesmen to push their products across after the contracts have been awarded.

Problem Not an Easy One

The writer admits this problem is not an easy one to solve. He does know that he does not approve of a host of salesmen coming in after contracts are awarded to try to change the decision of the board, which decision has been based on competitive bids and supported by the opinion of the architects. If a change is made for one salesman, there will be demands for further changes, and perhaps nasty accusations. A company listed by the successful contractor will not remain silent if it is shunted aside by some other concern. Explanations will be demanded, charges made, probably further price cutting, and it will be surprising if the final job is not pretty badly botched.

There must be exceptions to every rule, however. The writer does not propose that a board of education should never order a change of product even after the contracts are awarded. Cases do arise where it is very evident that a change should be made. Then there is only one thing to do and that is to make the change. And, of course, after bids are opened and before contracts are finally awarded the board should always have the right to specify any product it desires in spite of the lowest price and even if it is not listed by the low general bidder. In this way the companies putting out superior products can be given the proper consideration.

But, in general, the writer does not like the idea of salesmen coming in after the contracts are awarded to try to change them. It is poor business for the schoolmen to encourage this for eventually it will react against the public, resulting in either inferior products or higher prices. It also is poor business for the salesmen because it often means cutting prices below a reasonable figure, it promotes unethical dealings, it develops hard feelings, and it causes schoolmen to become vexed and lose their respect for the very ones who need it the most.

THE DUTIES OF PUBLIC-SCHOOL ADMINISTRATION—VIII

(Concluded from Page 40)

of the others. This set of duties is very closely related to those which pertain to assemblies, and what was said concerning the administration of assembly duties applies equally well to school publications and graduation programs. Undoubtedly, the administration and control of these activities are of sufficient importance to require the active participation of school executives, but the supervision of minor details may best be left to subordinate officers. A study of the data exhibited in Table XXXIX confirms the impression gained from a study of the other tables dealing with special activities, namely, that school principals and superintendents give too much attention to minor details.

Diversity of application...

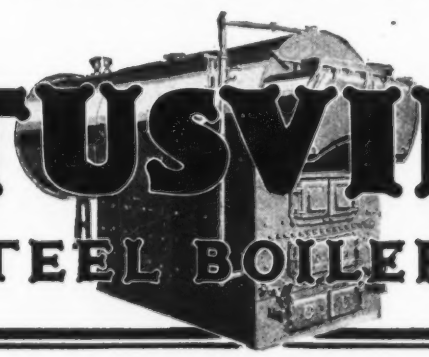
proves that...

Titusville Boilers are made to care for all heating needs in the most efficient fashion.

The preference for Titusville Boilers is not strange since *they do* what they are made for.

THE TITUSVILLE IRON WORKS CO., Titusville, Pa.

Division of Struthers Wells-Titusville Corporation

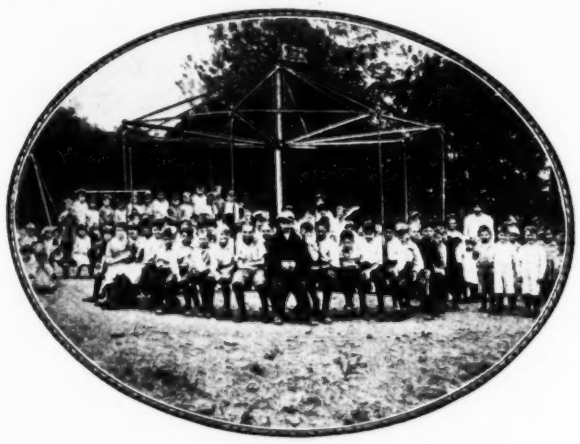


TITUSVILLE

STEEL BOILERS

MITCHELL
BETTERBILT
Playground Apparatus

Schools – Homes – Parks

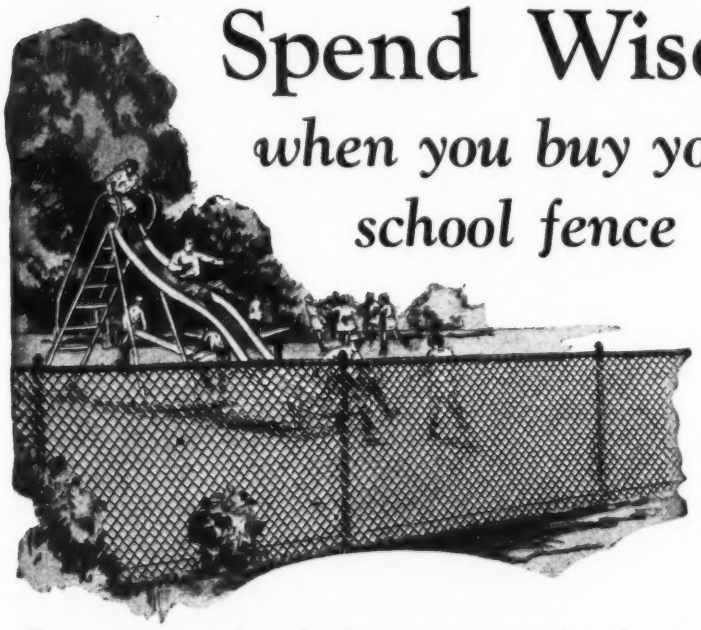


Mitchell Whirl!

The Mitchell Whirl, shown above, is just one number in the "Betterbilt" line. Send for free illustrated catalog and name of your state distributor.

MITCHELL MFG. CO.
1801 Forest Home Ave. Milwaukee, Wis.

Spend Wisely
when you buy your school fence



Everyone recognizes the imperative necessity of restraining the children from the dangers of their own carelessness. But when you buy a Fence, buy **permanence.** Careful buying (and not necessarily paying a higher price) can secure a fence which will outlast the years. You surely ought to analyze the Stewart Specification before you make any decision.

There's a new Stewart School Fence Catalog you will want to consult. Ask us to send it.

THE STEWART IRON WORKS COMPANY, INC.
505 STEWART BLOCK, CINCINNATI, OHIO

Stewart FENCE

. . . . *and now INDOOR SPORTS!*

Basketball and Volleyball will soon hold the center of the stage. In what condition is your equipment? And, do you realize that Narragansett knock-down bleachers are not only indispensable to the proper enjoyment of your fans — but will also prove to be distinctly worth-while financial assets!

Literature illustrating and detailing Narragansett basketball, volleyball and bleacher equipment is waiting to go forward in response to your request.

DEPENDABLE GYMNASIUM APPARATUS
STEEL LOCKERS — SHELVING — CABINETS

NARRAGANSETT MACHINE CO.
PROVIDENCE, R. I.

CHICAGO
1504 Monadnock Blk.

NEW YORK
214 East 40th St.

NOVELTY SCENIC STUDIOS
BUILT ON MERIT

DRAPERIES STAGE SETTINGS
SCENERY RIGGING
ASBESTOS CURTAINS

for schools, little theatres, clubs, halls, auditoriums

Booklet "S1929" describing the **NOVLFLEX** *setting will be mailed on request.*

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DAYTON
Safety Ladder
(Patented)

No Fear of Falling

Your painters, cleaners and repairmen work from a Dayton Safety Ladder with their minds at ease! Perfectly balanced, the Dayton can't slip or topple over. Strong, sturdy –easily carried because it's made of airplane spruce. Has auxiliary step; permits close work against walls. Its safety and convenience reduce maintenance costs! Sizes 3 to 16 feet. Moderately priced.

Type "B" Dayton Ladder
A "little brother" to Type "A" shown at left. A general purpose, popular priced safety ladder. Seven sizes.

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THE DAYTON SAFETY LADDER COMPANY
121-123 West Third Street, CINCINNATI, OHIO

Stock carried by Pacific Coast Representative, Bullard-Davis, Inc., Los Angeles and San Francisco, and by 160 other distributors from coast to coast.

GETTING RESEARCH INTO PRACTICE IN A LARGE SCHOOL SYSTEM

(Continued from Page 42)

in such form that they are meaningful. After considerable experimentation, we have devised in Baltimore what we call Teachers' Class-Analysis Charts,[3] which are made up and printed for each testing program. The general appearance can best be gained from Figure 5. This is an attempt to place all test results on a single sheet to give the maximum of detail and yet to make possible a summary, all without doing any elaborate calculations. It has worked exceedingly well in practice over a period of three terms, and has apparently done more to make our testing programs effective than any other device we have hit upon. A few words of detailed description may, therefore, be justified.

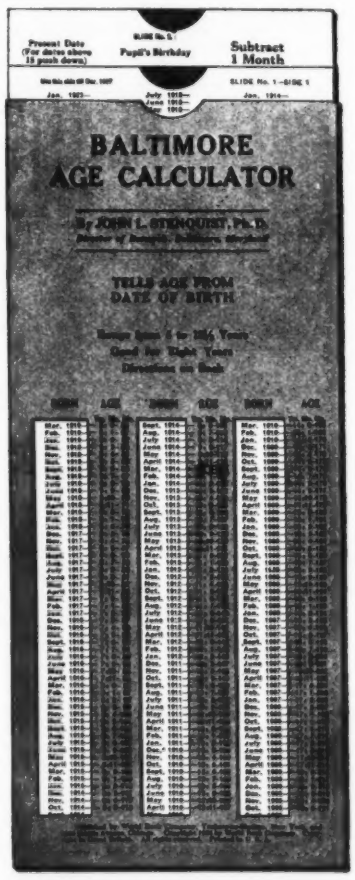

Present Date (For dates above 15 push down)
Pupil's Birthday
Subtract 1 Month
BALTIMORE AGE CALCULATOR
By JOHN L. STENQUIST, Ph.D.
TELLS AGE FROM DATE OF BIRTH

FIGURE 6

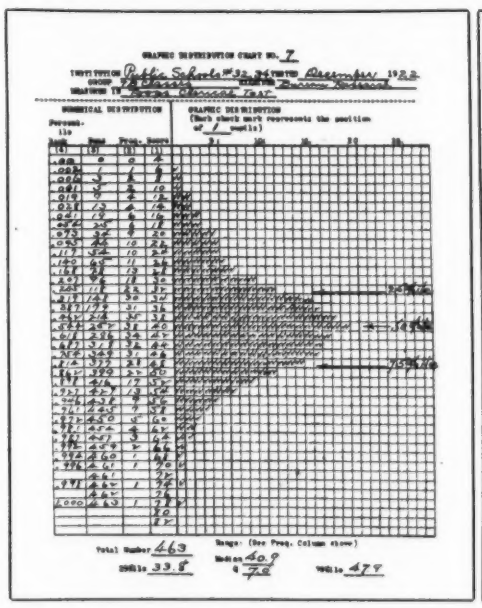


FIGURE 7. A TYPICAL DISTRIBUTION AS ORIGINALLY PREPARED IN PENCIL

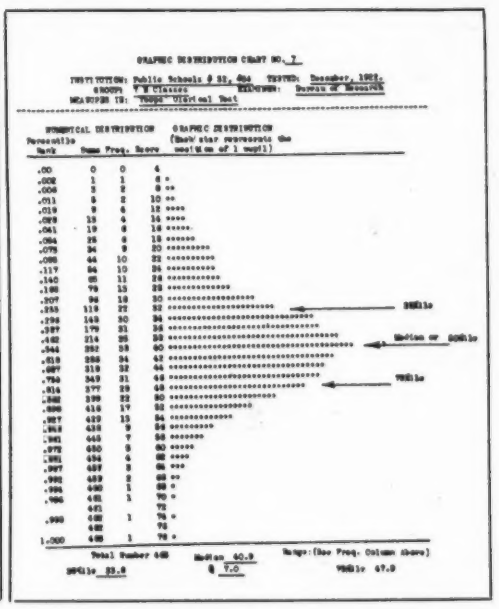


FIGURE 8. TYPED COPY OF FIGURE 7. NOTE THE LEGIBILITY

Column 1 at the extreme left represents the rank of each pupil as judged by the previous teacher. Each of these numbers serves throughout the chart as the identification number for the same child in the distributions, showing the results for the various tests. This provides a definite means of taking account of the teacher's judgment. Following in order, column 3 gives the chronological age, column 4 the mental age, column 9 is composed of intelligence quotients. Each child's identification number is written opposite his intelligence quotient. An attempt is made to interpret these quotients in as many ways as possible in columns 5, 6, and 7.

[3]Summarizing charts of one kind or another have been found necessary by many persons engaged in testing work. Superintendent Allen, of Providence, Rhode Island, has a splendid plan. Director Everly, of the Bureau of Research at St. Paul, Minn., has another excellent plan. No claim is made that the Baltimore Teachers' Class-Analysis Chart is superior to others. It has been worked out after careful study of a number of other charts and seems to be working with success.

Over the Week End

OLD desks made Like NEW

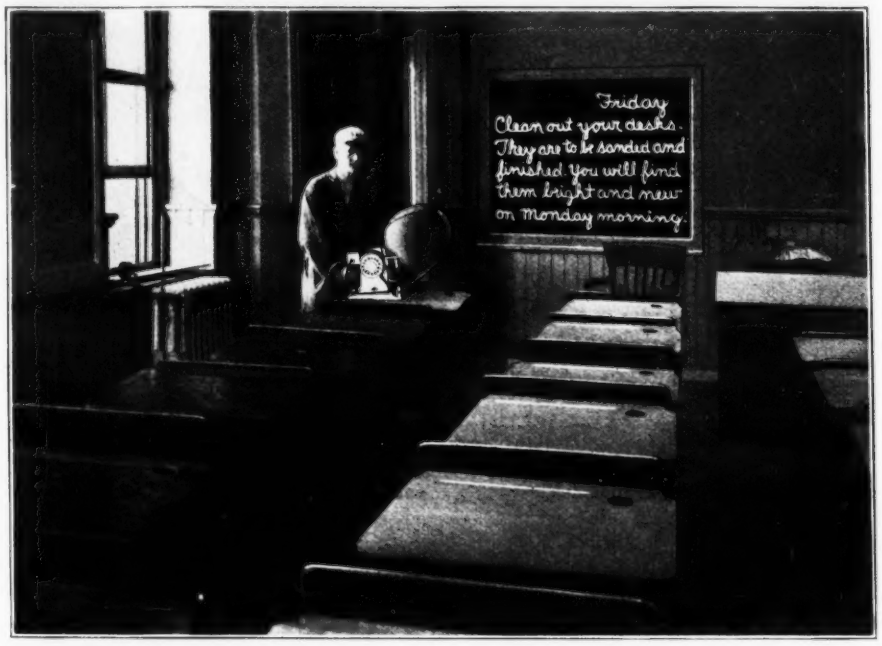
Your maintenance department can easily resurface your school desks after hours or over the week-end with a Clarke Vacuum Portable Sander. There is no need to dismantle and remove the desks, and you don't need varnish remover or neutralizer of any kind. In four minutes or less you can sand a badly scarred average sized desk to an even velvety smoothness. The Clarke weighs but 22 lbs. for this kind of work, operates from a light socket and has an inbuilt vacuum system that makes it dustless in operation, permitting varnishing immediately after.

Teachers' desks, tables, laboratory and manual training benches, drawing boards and other equipment can be made new and kept in attractive usefulness at negligible cost, enabling you to realize the beneficial results and advantages you know your equipment can give.

Maintains Floors, Too

In an 8-hour day it can resurface 900 to 3000 square feet of average school floors and in the same length of time can rough and finish 300 to 1000 square feet of old varnished flooring without gumming or clogging the sandpaper. These are guaranteed footages—guaranteed by no other sander. For floor work—equipped with floor handle and floor bag—the Clarke weighs only 31 lbs. and can be carried about by hand.

One man alone, working after school hours and on week-ends, can keep your school equipment and floors looking like new, saving you hundreds of dollars; large schools have saved thousands of dollars by using 1 or more Clarkes.



Helps Manual Training Instructor

The Clarke is used in small and large woodworking shops all over the country. That is why progressive schools are adding it to their manual training equipment, enabling them to keep their woodworking courses strictly up-to-date. Any boy can operate it on floor and bench; it requires no permanent floor space—no special dust collecting system — no installation cost. No other sander meets your needs so completely, economically and conveniently as the Clarke.

Let us tell you how your school may have, enjoy and profit by these advantages. It will cost you nothing. Write, or mail the coupon today.

CLARKE SANDING MACHINE COMPANY

Dept. G-312, 3821 Cortland St., Chicago, Ill.

Originators and, for over 12 years, Manufacturers of Portable Sanding Machines.

INFORMATION COUPON

Clarke Sanding Machine Co.,
Dept. G-312, 3821 Cortland St., Chicago, Ill.

Gentlemen: Please send more complete information about the Clarke and its advantages on school maintenance work.

☐ Also for Manual Training.

Name.....

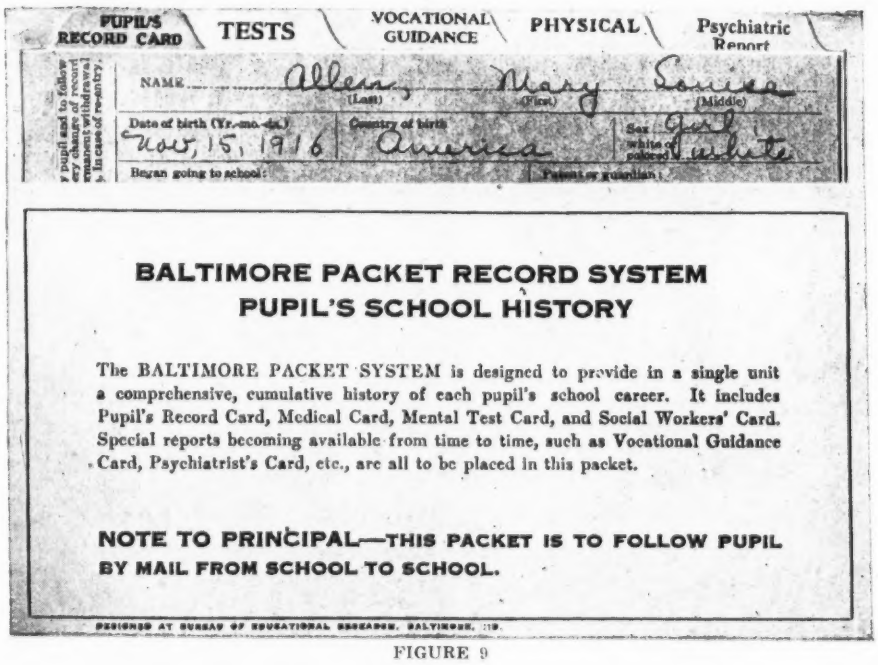
Address.....

City..... State.....

Thus in Baltimore, we designate as X pupils, the intermediate pupils, who rate 110 or above in the Illinois Intelligence Test, and as is further shown in column 6 this represents the upper 20 per cent of pupils in general in Baltimore. Similarly, pupils whose intelligence quotient is 76 or under are called Z pupils, as is shown in column 6, meaning that they are in the lower 20 per cent of pupils in general. In column 5 an attempt is made to translate this information into adjectives such as slow, average, superior, and so forth. In succeeding columns all printed score entries for various tests are simply the normal scores all translated into grade level equivalents at the right-hand margin of the sheet. To record a child's performance, the teacher merely writes that child's identification number beside the appropriate score for each of the tests. The forms are printed with a second sheet attached so that a carbon copy can be made. Inserts are provided and in practice we are now making one original and two carbon copies, one for the teacher, one for the principal, and one for the central office. It is reprinted with changes each term to provide for whatever tests are to be used. This form is of direct use to the teachers and principals, supervisors, and the Bureau of Research.

It is also possible to make use of a number of special devices for saving time and labor for the teachers, and also to make possible the handling of the mass of results at the central office. Such devices as books of tables, calculating and tabulating machines are desirable in the central office. In the schoolroom, simple devices such, for example, as the Baltimore Age Calculator, saves time and labor and tends to increase accuracy.[4] With one setting of this device, it is possible for a teacher to read the ages of all pupils between 5 and 18½ years as of any particular month. (See Fig. 6.)

[4]No comparative study has, however, been made of this device to prove this.


PUPIL'S RECORD CARD | TESTS | VOCATIONAL GUIDANCE | PHYSICAL | Psychiatric Report

NAME Allen, (Last) Mary (First) Louise (Middle)

Date of birth (Yr.-mo.-da.) Nov. 15, 1916 | Country of birth America | Sex (white or colored) Girl White

Began going to school: | Parent or guardian:

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NOTE TO PRINCIPAL—THIS PACKET IS TO FOLLOW PUPIL BY MAIL FROM SCHOOL TO SCHOOL.

DESIGNED AT BUREAU OF EDUCATIONAL RESEARCH, BALTIMORE, MD.

FIGURE 9

Plotting distributions with the typewriter. One of the practical devices developed is the method of plotting statistical distributions with a typewriter. This formerly was done by hand on a drafting board, and was somewhat beyond the training of typical clerical forces. By utilizing a printed distribution form (see Figs. 7 and 8), distributions can be easily and quickly made by clerks of limited training, and the whole copied by typists on stencils for mimeographing.

Baltimore Packet Record System. It is, of course, necessary to have a practical method of keeping permanent records of pupils in the public schools from year to year. The Teachers' Class-Analysis Chart and the other data, while highly significant in a testing program, are planned for use for the most part during a single term. The problem of how to maintain a continuing record for every pupil in the schools with a minimum of labor, therefore, confronts every school system. To meet this problem, we have devised what we have called the Baltimore Packet Record System. It may be considered distinctly a time- and labor-saving device in that it is a method of keeping a system of records with a minimum of clerical work with a maximum flexibility.

To summarize, it seems clear that machines, forms, plans, devices, of whatever kind, are of as great importance in the field of mental testing as they are in the other sciences or in the world of industry. Considered by themselves, they may seem trivial, yet in terms of effectiveness, they are of significance.

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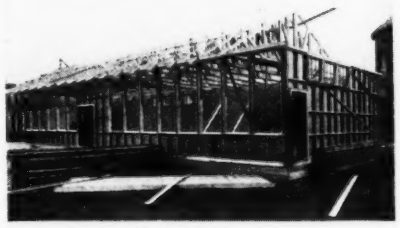

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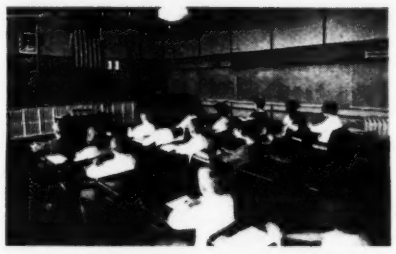

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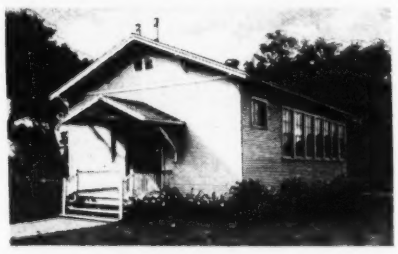

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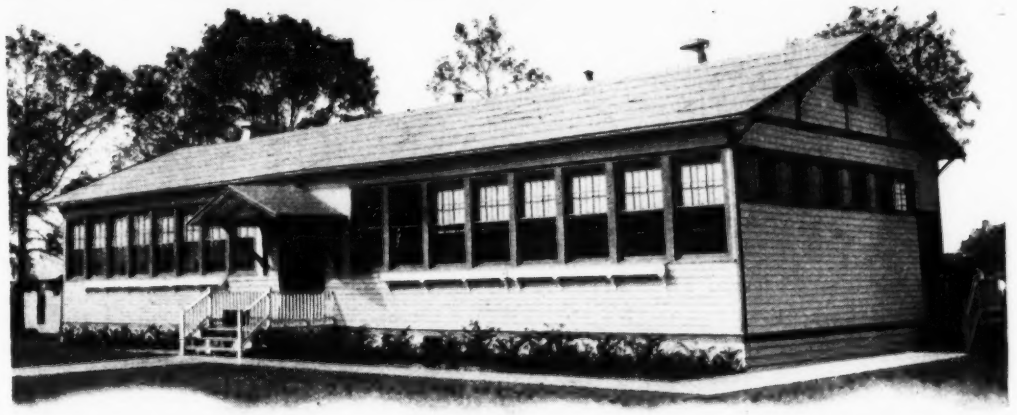

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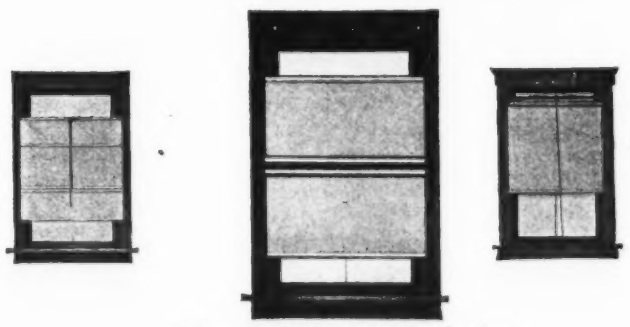

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Book News and Reviews

Have We Kept the Faith?

By Charles A. Prosser and Charles R. Allen. Cloth, 429 pages. Price, $2.75. The Century Company, New York City.

This volume will be welcomed with glee by the associations that are trying to reduce the expenditures for school money and will be no less vigorously scored by the educational standpatter. At all events, it is a book that no one interested in education can afford to miss. Despite many obvious drawbacks, it is a stimulating book. Many of the premises are shaky to say the least; it is rather naive to take the opinions of psychologists of 1910 with regard to transfer of training and accept them as final nineteen years later. No less naive is the assumption that schools for service were prevalent in the world until the decadence of the Roman Empire, and have been almost entirely individualistic since then; so much so that the idea of schools for service "had almost gone out of the world." Even an elementary knowledge of the history of educational theory and practice would have exploded that absurdity. There are notable inconsistencies; for example, after scoring vigorously the transfer of training and formal discipline, the authors quote with approval from Lippmann (p. 383):

We have to prepare children to meet the unexpected, for their problems will not be the same as their fathers'. To prepare them for the unexpected, means to train them in *method* instead of filling them with facts and rules. They will have to find their own facts and make their own rules, and if schools can't give them that *power*, then schools no longer educate for the modern world.

Obviously, this is the contention of those who hold to disciplinary values for certain subjects; the study of mathematics, they say, will give the students a method and a power that they can use later.

Nevertheless, there are many educational questions of vital importance to America that are raised in this book and that earnestly clamor for solution. That the solution proposed in the present volume will not be accepted by all does not make the book useless. Vocational education is not a panacea for our educational ills. Are we sure that teaching a boy how to wipe a joint is going to make him a better American than if he learns, let us say, the binomial theorem? May not one be as useless as the other in the world of tomorrow? Suppose a boy takes up plumbing or carpentering or watchmaking. At the age of 18 for economic or other reasons, he may decide that he wants to become a doctor, or an engineer. Do the authors believe that the medical and engineering schools of the country, backed as they are by powerful public opinion within the professions, will let down the bars and allow this boy into the premedical or preengineering course? If so, it is a return to the good old days of the 90's, when the street-car conductor or the barber in a slack season entered one of the commercial medical schools and in due time received his medical diploma.

Many of the proposals in the book are sensible. Clearly, too, much money is being spent in the college-preparatory courses in the high schools, and there seems to be no valid reason for the vast expenditures of public monies on our universities to allow an undisciplined crowd of youngsters to grow collegiate. Singularly sound and sane are the protests of the authors against our credit system, and their proposal to eliminate the college misfits by a system of tests, rather than by the number of high-school units they have amassed in academic subjects. More radical is their proposal to abolish the state-supported four-year liberal-arts college. The money thus saved could be used for extension work for adults, and for those young people who have not had an opportunity for a high-school education.

It is a book that will stimulate thinking about our American educational problems. It is one that all who are concerned with the theory of education in a democracy should read carefully.

Teaching and Learning the Common Branches

By C. C. Schmidt. Cloth, 418 pages. Price, $2.25. D. Appleton and Company, New York, N. Y.

Following the newer trends of American educational philosophy, this new book of methods emphasizes the activity of the learner. Professor Schmidt has gathered together in a systematic way, a great deal of material that will be of assistance to methods classes in colleges and normal schools. He presents a great deal of concrete illustrations. The curricula, equipment, and illustrative aids that he recommends cannot but be helpful in making the elementary-school teacher more efficient. All the soundest and more modern methods of teaching the subjects in the curricula of the elementary schools are here discussed and evaluated objectively. There is no attempt to impose the author's view on the student.

This volume will be useful not only to students in training schools, but also to teachers in service who need to have the newer methods presented in such a fashion that they themselves may judge of their merits. Excellent bibliographies are added to each chapter.

THE PERFECT BOOK

A book is materially perfect when it is easy to read and delightful to think about, when one passes from reading to contemplation, and from contemplation back to reading again, as easily as one accommodates oneself to the insensible visual changes. In such cases, the black and white parts of the page relieve each other, and the eye moves across this well-regulated domain without effort, appreciating the ensemble, and the detail, and feeling itself in ideal conditions to perform its functions.—Paul Valery.

Ancient and Medieval History

C. J. H. Hayes and P. T. Moon. Cloth, 893 + pages. Price, $2.60. The Macmillan Company, New York, N. Y.

This valuable addition to the growing list of high-school texts in general history tells the story of civilization from the earliest surviving historic records to the beginning of the Nineteenth century. While the book follows closely the requirements of the best city and state courses, it is by no means a dry or formalized presentation of the subject. Necessarily, the narrative is compressed into the briefest possible form, but the authors manage rather cleverly to introduce enough of the human element to convey to the student something of the spirit as well as of the achievements and troubles of each of the major periods and peoples which they present. The usual difficulty of painting Greek and Roman civilization in too glowing terms has been avoided.

The common fault of emphasizing events in English and French history as the center-thread for the narrative of the Dark Ages and earlier Medieval period has been splendidly obviated by the broad viewpoint of the authors. The account of the Middle Ages is exceedingly moderate and the authors have avoided on the one hand over enthusiasm for medieval civilization and on the other general condemnation of the same period.

Some teachers will feel that the final chapters of the book, in which the decline of autocracy during the Eighteenth century is necessarily described, is a bit more conservative and sympathetic than seems warranted. It seems to us that the sober, second sense of the historian is here asserting itself.

The book is very completely illustrated. Each of the chapters is provided with questions for review, special topics for discussion, a bibliography, and recommendations for readily available special and source material.

A Second-Year Latin Reader

By F. W. Sanford and H. F. Scott. Cloth, 671 pages. Price, $1.60. Scott Foresman & Co., Chicago.

This book has been prepared to contain a considerable amount of easy reading matter to precede the study of Caesar's Gallic War which serves as the core of the second year's work. Following the Gallic War is a series of simple historic extracts from Nepos and Troja Capta, for quick reading at the close of the year and to form an introduction to third-year work. Grammar, vocabulary building, reviews, syntax, historic information have been excellently blended. The revision more strongly than ever, justifies the wide popularity which the work has enjoyed.

BOOKS IN ADULT EDUCATION

Hitherto, the movement of adult education has been, in my opinion, too closely tied up with the idea of book learning. Book learning has been treated as though it were the typical form of education, which every human being ought to undergo. Now, I am far from being opposed to book learning. I have been a student of books all my life. Book learning is a necessary part of all education, but it is not the whole of education; and when we try to make it the whole of education, we get very disappointing results and we may do positive harm.—L. P. Jacks.

The Conduct of Community Centers

Paper, 52 pages. Price, 25 cents. Published by the Playground and Recreation Association of America.

This book will serve as a useful working guide for planning school community-center activities. The policies and the list of activities suggested are perhaps more liberal and more inclusive than any school board would properly accept.

How Schools Use Their Time

By Carleton Hunter Mann, Ph.D. Cloth, 202 pages. Bureau of Publication, Teachers College, New York City.

This doctorate thesis of Teachers College, Columbia University, is a study of time-allotment practice in American cities. It includes a study of trends in time allotment from 1826 to 1926; an investigation of the time allotments recommended by state authorities; change in emphasis relative to the three R's; the content subjects and the special subjects during the period 1826–1926. This is followed by a study of the time allotment given to elementary subjects in 444 school systems. One of the astonishing findings in this report is the variation in time allotment to the same subject by individual cities. All in all, this is an excellent objective study of facts that concerns every student of education. The volume will supply teachers of education with interesting data for their classes; the superintendent may be able by a study of this document to check the wastage in his own school system; classroom teachers will be able to determine whether they are overemphasizing certain subjects and slighting others.

The Supervision of Elementary Subjects

Edited by William H. Burton. Cloth, 710 pages. Price, $2.40. D. Appleton and Company, New York, N. Y.

This volume, the seventh in the Appleton Series in Supervision and Teaching, is a brief, compact summary of material of value to superintendents, general supervisors, and principals to aid them in supervising the various elementary-school subjects. After an introductory chapter by the editor on the general theory of supervision, specialists in the particular field contribute chapters on the supervision of arithmetic, spelling, reading, handwriting, language, geography, history, civics, nature study, music, art, industrial arts, and health education. The book is not intended for the special-subject supervisor, but for the "generalist." It is eminently practical and should be exceptionally useful to those who have charge of the general supervision of elementary subjects. To each chapter an excellent bibliography is added.

Principles and Technique of Teaching

By Frank W. Thomas. Cloth, xxiv + 410 pages. Price, $2. Houghton Mifflin Company, Boston, Mass.

This book was prepared for students in teachers' colleges before entering upon their practice teaching. There is very little that is new in the book, or that distinguishes it from other books on principles and technique of teaching, except possibly a more sympathetic appreciation of the more progressive practices of modern education. A useful summary is given at the end of each chapter, together with an outline guide for observation, which should prove useful in correlating theory with practice.

Educational Hygiene

By Lawrence Augustus Averill. Cloth, 546 pages, illustrated. Price, $2.60. Houghton Mifflin Co., New York City.

A great change in viewpoint has taken place in American schools since the world war with regard to health education. For much of the health program now considered desirable in the schools, the average teacher has received but very little training. As a consequence, health teaching has remained in many places very inefficient. The present book is a good general text to prepare teachers to handle a health program in all its aspects. Here are presented in a single volume the essentials of child hygiene, school hygiene, personal hygiene, mental hygiene, together with the pedagogical principles underlying health teaching. It is recommended for use in normal schools, as well as to teachers in service, who will find the book practical and serviceable.

Principles and Practices of Vocational Guidance

By I. David Cohen. Cloth, 471 pages, illustrated. Price, $3. The Century Co., New York City.

Designed as a text for use by college students in courses in vocational guidance, this book more than fulfills its purpose; it serves also as a stimulating book for all who are interested in American education. The history of vocational guidance is traced in the first part of the book together with divergent

(Concluded on Page 136)

CHRISTMAS CHEER

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(Concluded from Page 134)

viewpoints on the subject. Part II is devoted to principles of vocational guidance, and part III to the application of these principles. The appendix contains excellent bibliographies, information about occupations, and forms and records for use in connection with vocational guidance. A great number of Diagnostic and Remedial Methods," describes its Principals, superintendents, and all school officers that have anything to do directly, or indirectly, with the problem of vocational guidance should read this excellent common-sense manual.

The Improvement of Reading

By Arthur I. Gates. Cloth, 452 pages, illustrated. The Macmillan Company, New York City.

The subtitle of Doctor Gates's book, "A Program of Diagostic and Remedial Methods," describes its purpose and scope perfectly. The author's long period of experiment and research in the field of psychology of reading is a sufficient guarantee of the scientific value of the material here presented. School teachers and supervisors will find Parts I, II, and III particularly useful. These deal with the ordinary cases of diagnosis and remedial instruction in reading. More technical knowledge is required for Part IV, which deals with cases of extreme reading difficulty. The most significant contribution of this volume is the description of a new method of teaching reading. The author describes the new procedure which he calls the "intrinsic device," as one which is not separate or supplementary, but an intricate part of the mental processes of reading. Doctor Gates explains and illustrates fully this new method of teaching reading. Case studies are used throughout. Every effort is taken to make the new methods concrete for the reader.

The present volume is one that cannot be neglected by the student of educational psychology; it is recommended also to elementary-school teachers and supervisors. The format of the book is excellent. Its utility is increased by the exercises appended at the end and an adequate index.

The Wonderful Story of Science

By Inez N. McFee. Cloth, 398 pages. Price, $2.50. Thomas Y. Crowell Co., New York, N. Y.

Eight of the basic branches of science—astronomy, geology, botany, zoology, anthropology, chemistry, physics, and electricity—form the subjects of this book. Present-day theories and discoveries, as well as the historic beliefs and opinions, are treated. Several of the chapters will satisfy neither the adherents of fundamentalism nor the disciples of modern science.

The chapters on physics, chemistry, electricity, and plant life are on sure ground.

Business Administration of Public Schools

By Harry P. Smith. Cloth, 432 pages. Published by World Book Company, Yonkers-on-Hudson, New York.

Books seeking to bring out the accepted practices in the field of school administration which have grown out of conscientious efforts in the direction of improvements, are always welcome. Such books—many of them—are now available. The present book, however, is exceptional in point of completeness and thoroughness.

The author in presenting the present volume approaches his subject with the thought that "the basis of every phase of school administration is fundamentally educational." He believes it to be important that the business and professional labors of a school system be considered in the nature of a single unit. In his treatment he holds, however, to the business and financial phases of school government.

The plan of the book provides a discussion of every phase of school administration. He begins with the board of education, its construction and organization, and the function assigned to it, and recognizes the outstanding fact that with the constant expansion of the modern school system the board of education covers a wider range of considerations than ever before.

The introductory chapters tell of the size of boards of education, the question of tenure of service, and elective and appointive systems. Through a series of charts the plan of organization adopted by boards of education are contrasted with those employed by commercial and industrial organizations. The position of the school superintendent is comparable to that of the plant manager.

Much attention is given to budget making, public-school accounting, financial reports, and publicity and payroll accounting. The aim here is to emphasize clearness and simplification.

The operation and maintenance of the school plant, including the administration of janitorial engineering service, is comprehensively treated. The author deals with the appointment and compensation, rating and promotion, tenure and supervision of the janitor service. The duties coming within the province of the custodian are fully outlined.

There is in the field of school administration today just one outstanding controversial question. It relates to the business manager, or secretary of the board of education, namely, whether this officer shall be under the direction of the superintendent or immediately responsible to the board. The author has this to say on the subject:

"Conflicting claims are made by the proponents of these two types of administrative control. The city school business manager, independent of the superintendent of schools, claims that he does business in a businesslike manner because he is a business man; that he saves money because he employs business methods superior to those employed by superintendents of schools and their assistants; that all things progress harmoniously for the education of the children in whose interest schools are established and maintained. The superintendent claims, on the other hand, that the business methods employed in unit-type cities are as effective as those employed in multiple-type cities, that the unit systems are no more costly, and that affairs are always conducted with the educational point of view predominant."

The several chapters are followed by a list of publications, upon which the statements and arguments presented, are based. It may not be out of place to note that out of the several hundred references made, the name of the AMERICAN SCHOOL BOARD JOURNAL appears 151 times.

Standard Service Geometry Work-Book

By H. D. Welte and F. B. Knight. Paper, 73 pages. Price, 44 cents. Scott, Foresman & Co., New York, N. Y.

This work-book provides carefully built drill material to supplement the classroom use of any standard text in geometry. It affords recurrent practice upon the fundamentals and stresses the correction of erroneous geometrical concepts. At the end of each drill are standards by which to measure the pupil's achievement on the drill. By means of the rating plan, the work of each individual pupil may be compared with that of the other students, since the standards are based upon the actual scores of a large number of high-school students.

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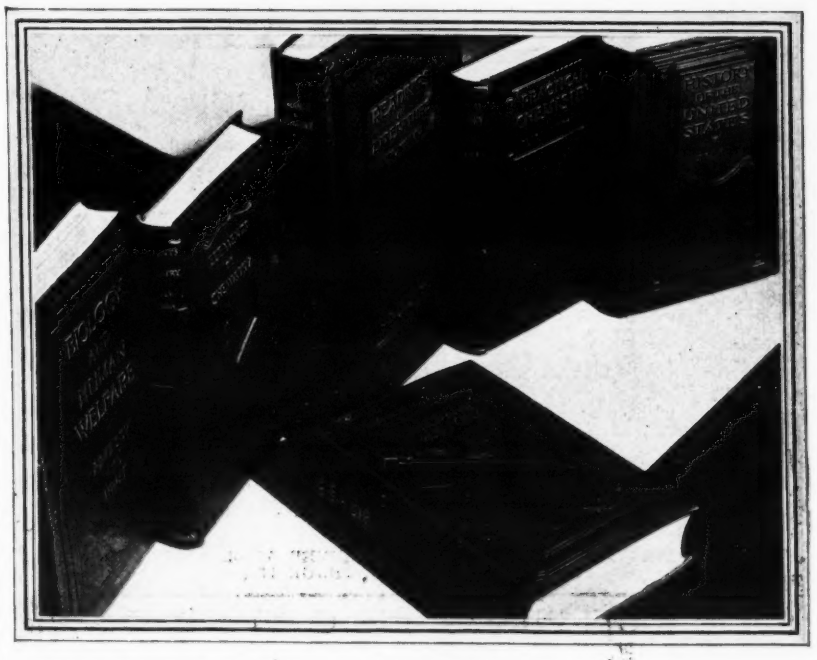

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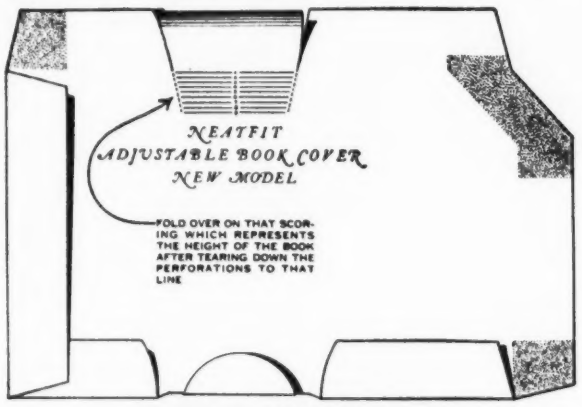
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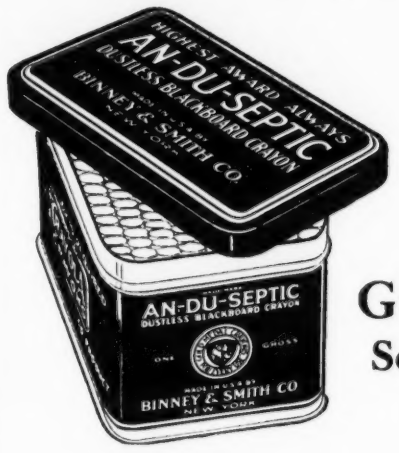

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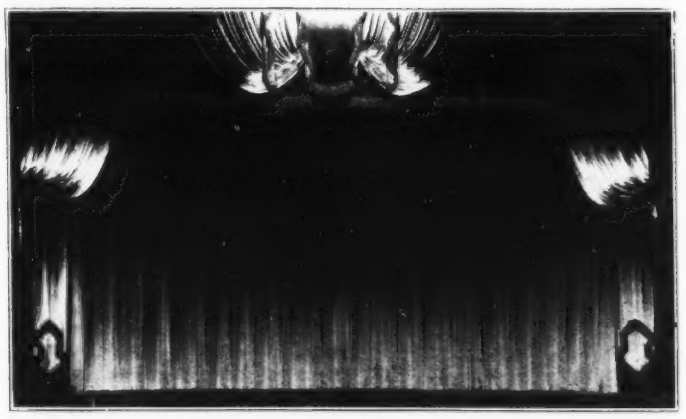

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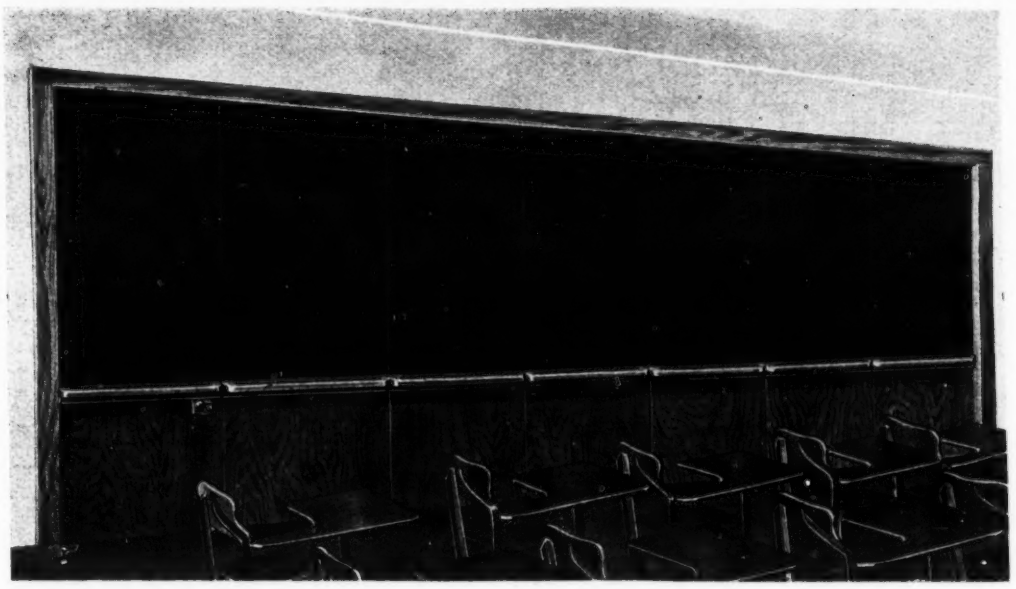

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A Remarkable School Survey

A report on the survey made of the school system of New York City, covering 1,834 pages, has just been issued. The board of education of that city in July, 1924, concluded to invite the leading educators of the United States to make a study of the school system, analyze the status of things, both as to the instructional labors carried on and the administrative policies pursued. The avowed purpose was to secure the judgment of expert minds on any weakness which might have crept into the government of the school system, and to suggest and recommend such improvements as might be deemed necessary or desirable. The survey involved a huge undertaking, bringing into active service a large number of educators who excelled in some particular phase of educational service. These experts were carefully chosen and came from various sections of the country. The cost involved reached the $50,000 mark.

Twenty Questions Submitted

Pres. George J. Ryan of the board of education, and Supt. William J. O'Shea agreed to submit the following set of questions:

1. What are the chief high spots or excellencies in the present program of instruction and the present method of conducting the school system?
2. What, if any, businesslike steps are we failing to take to hasten the construction of new buildings?
3. Is there any way to secure more efficient buildings for the same money, or equally efficient buildings for less money?
4. Are we making the best educational use of our new school buildings and the old buildings?
5. What, if any, changes are needed in the method of administering repair funds?
6. What headway have we already made and insured to eliminate part time?
7. What are we doing or leaving undone to make sure that efficiency of instruction shall keep pace with rapidly increasing annual allowances for instructional salaries and with modern best practices?
8. Where, if at all, might the supervision of instruction be changed in organization or procedure for the benefit of teaching?
9. What possibilities are there of material improvement in the method of recruiting, selecting, training, and promoting teachers and supervisors?
10. Where, if at all, in the 6–3–3 course is there opportunity to save one year or more for a large percentage of children, while still maintaining or increasing the effectiveness of their schoolwork?
11. What, if any, economies are possible, while maintaining efficiency, in the handling of supplies?
12. What, if any, changes are needed in the method of choosing textbooks and in the use of visual aids to instruction?
13. What next steps are desirable in the aim, content and wording of our courses of study?
14. Where, if at all, is it desirable to extend the cooperative school method of learning while earning in department stores, business offices, and manufacturing plants and in cooperation of schools with museums and libraries?
15. What, if any, work is the system now doing that might be dropped without serious injury to educational results?
16. What, if any, needed work is the system failing to do, or failing to expand rapidly enough?
17. Where is the overhead large enough, too small, or too large for administration and supervision?
18. How, if at all, can the auditing department be made of greater help in operation results?
19. How, if at all, can better results be obtained by changes or extensions in the educational staff's provision for studying the best practices in our own system and elsewhere?
20. How can this board be more effective in its current study of what is done for children and what is done with public money by our school system?

List of Brilliant Investigators

The school survey committee was headed by Dr. William H. Allen. The chief consultant of the committee was Joseph Miller, Jr., secretary of the board of education. The members of the committee were E. C. Hartwell, Wm. H. Holmes, R. H. Jordan, A. L. Weeks, J. H. Withers, L. R. Alderman, L. P. Benezet, Edwin C. Broome, D. B. Corson, S. A. Courtis, A. N. Farmer, E. A. Fitzpatrick, Payson Smith, and P. C. Stetson.

Those who are familiar with the list of educators here enumerated will agree that it embodies the most brilliant names in the educational field of the United States. All are highly connected, and in immediate charge, of popular education, either as superintendents of city school systems, as commissioners of state systems, or serving as specialists in given branches of study.

The report is divided into twenty sections in which the various subjects suggested by the set of questions are discussed.

Answers to Questions Asked

Each section enters upon an exhaustive discussion of the particular question that has been presented. To provide an adequate conception of range which these discussions assume would involve more space than the compass of this article permits. The summary submitted by Dr. William H. Allen, the chief examiner, would in itself constitute a voluminous document.

It is, therefore, somewhat hazardous to attempt a series of answers in the same compact and terse language in which the questions are phrased. But we shall attempt to present the several answers in the briefest possible form, as follows:

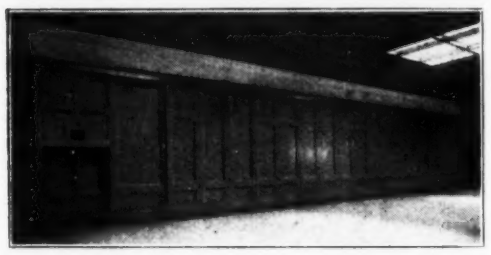
1. There are many commendable high spots or excellencies in both the instructional work carried on and the administrative policies pursued. On the business side, steps and devices indicate that helpful self-survey in the direction of efficiency was constantly at work.

2. Once decided that a particular building is to go on a particular site, the construction proceeds in a very businesslike way and with unusual dispatch. It would be hard to find in private business a volume of business that has been pushed with dispatch equal to that of the board of education.

3. The answer is submitted in the form of a recommendation that the superintendent be henceforth expected to have organized, under an educational specialist, a continuing building-research service that will enable the superintendent to advise the architect respecting best educational uses of school buildings and that, in addition, will check the plans sent back by the architect to be sure that agreed-upon economies have been guaranteed and agreed-upon educational efficiencies assured.

4. Continue the new style of building, with special facilities. Continue the policy of full-time full use of buildings.

5. Nowhere is the old adage more truthful that "a stitch in time saves nine" than in repairing property. The present method of waiting until there are enough repairs to warrant letting a contract is simply inviting extravagance, however economi-



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cally the contract repairing is done when finally ordered. It should no longer be possible for the same complaint to come in month after month and year after year to a repair division.

6. Continue erecting school buildings and make over old buildings for full-time full use of each school plant, and continue providing every child with an educational place throughout a full-time school day.

Build larger play spaces around and near schools on the fourfold ground that they are (1) material assets to neighborhood real estate; (2) important aids in improving neighborhood health and spirit; (3) appreciable factors in reducing per-capita cost of instruction; and (4) facilities that are superior, perhaps even to classrooms, in giving the kinds of education and training which New York wants for its younger children. Use libraries, museums, and other community resources more extensively, not merely as aids in eliminating part time, but as educational assistants par excellence.

7. The answer is long and involved. One paragraph, however, may suffice: Make teacher and supervisor salary drives unjustifiable, by using the resources and leadership of the superintendent and the board of education in proposing that educational salaries keep pace up or down with the inflated or deflated cost of living in dollars; and where, if at all, salary rates, when compared with cost of living and service obtained, are lower or higher than justice to pupils, teachers, and taxpayers warrants.

8. Make the board of superintendents a cabinet of advisers, projectors, and executive aids that will be recognized not only throughout the city and state of New York, but throughout our country and the world, as educational statesmen, competently leading in the solution of education's greatest problems. Keep the light of professional and public interest upon the cooperating and leading functions of the board of superintendents rather than upon its powers to check or checkmate the superintendent.

9. The answer here is embodied in a long series of recommendations which culminate in the following paragraph: Examiners should be required to visit schoolwork; to assist schools in framing tests; to explain, especially to training school teachers and classes, the principles of proper diagnostic testing; to discover most effective supervising and administering; to work out higher standards for exempt positions of every grade; to report on recruiting methods in use elsewhere for raising educational standards.

10. In every school, and in every year, there is opportunity, as experience is proving, to have part of a year for a few or for many children. There is a quite general admission that a large precentage of children might cover the minimum essentials of the elementary course of study in seven years and the high-school course in three years, if allowed and encouraged to go at the rate which their own ability permits.

11. Hasten the installation of the easy-to-keep perpetual school inventory of textbooks and the simplified annual report of supplies on hand, which elementary and high-school committees have helped the bureau of supplies develop.

12. Work out progressively higher minimum standards for textbooks in different subjects through committees and supervisors, whose findings, when approved by the superintendents responsible for instruction, should be applied to all texts proposed for the open list, preferably in the form of committee descriptions of just where each text is above, up to, or below the standard.

13. The answer here is encumbered with many recommendations. The one paragraph which answers the question in a compact way reads: The most important single next step is to widen and keep open the channels of suggestions, testimony, and frank criticism between teachers and their supervisors, between principals and their district superintendents, between district superintendents or directors of special branches and the superintendents in charge of instruction.

15. Discontinue bureaus of lectures and visual instruction as separate bureaus. Let bureau of supplies manage them.

17. More and better results can be secured at several points from several overheads, by exacting higher efficiency from clerical staffs, by more rigidly enforcing rules about tardiness and absence, and by requiring the same working year of clerks in schools and district offices that is required of clerks in the central office and in other municipal offices.

18. Expect the auditor to furnish the superintendent and board, for their action, with the questions and proofs respecting business efficiency which would be expected of a business or executive manager. The latter office is not recommended because the chief need is for information upon which to act rather than for a new officer to require action. Change the by-laws to require and empower the auditor to investigate business operations for their efficiency and economy as well as for legality and accuracy.

19. Lay the basis for a cumulative and system-wide search for the best practices by developing and applying standard tests and measurements, and by recording the results with the information service. Encourage greater participation by supervisors and teachers in professional conferences—local, state, and national—and use helpful facts and suggestions reported by them.

20. Improve the legibility, accuracy, and completeness of information by requiring the superintendent to assume responsibility for all official information used by the board or its committees and members, on so-called business as well as so-called educational phases of schoolwork; if, in checking up or otherwise trying to use information from the superintendent, inadequacies appear, then ask to have the method or form permanently corrected so that the inadequacies will not reoccur: have the superintendent realize that the board and its individual members, while always free and honor bound to check up or audit his reports, will look first of all to him for certifiable information about the system's problems and progress.

DETECTING DEFECTIVE HEARING

To help in removing one of the causes of retardation in the New York City elementary schools, teachers throughout the city have been requested by Supt. William J. O'Shea to administer five simple classroom tests to detect pupils with defective hearing, in order that such pupils may receive the proper treatment, or if necessary, be transferred.

In the opinion of Superintendent O'Shea, any child who experiences difficulty in hearing at a distance of twenty feet or less should be reported for an examination of his hearing. The simple classroom tests recommended by the superintendent are as follows:

1. Address a child unexpectedly when he is writing or reading. Note his response.

2. Place the child in the rear of the room. Dictate to the class. See if the child writes the correct words.

3. After another child has answered in class, call upon the child under observation to repeat what has been said.

4. Observe by the change in the attitude of the child's head whether he is straining to hear.

5. Inquire whether the child's ears discharge or whether he has frequent head colds.

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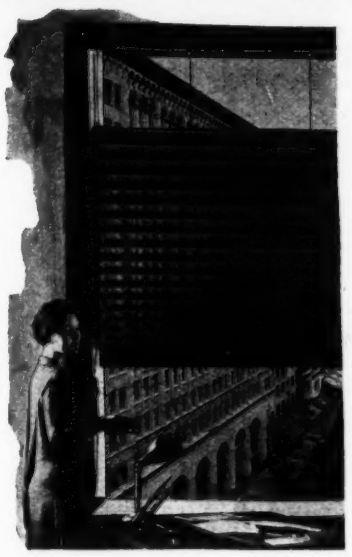

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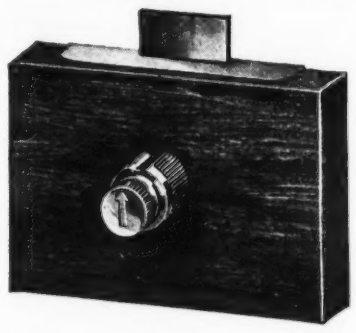

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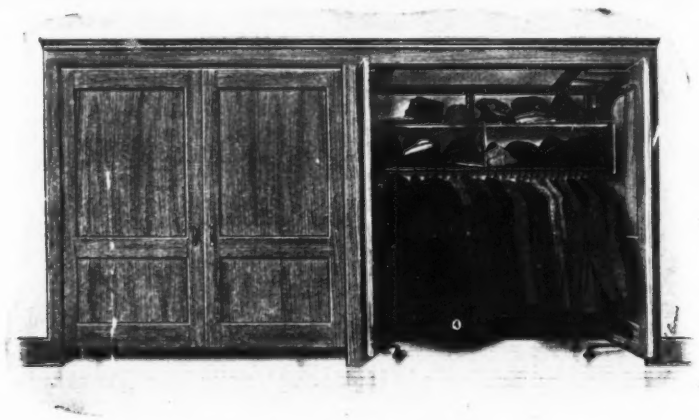

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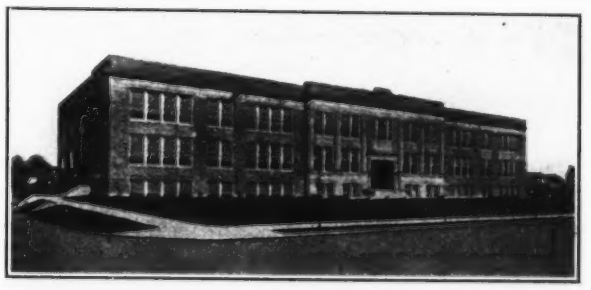

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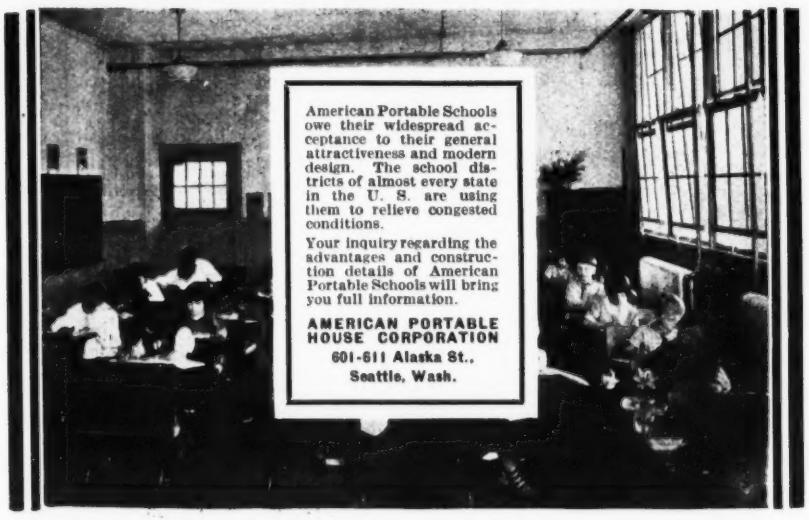
American Portable Schools owe their widespread acceptance to their general attractiveness and modern design. The school districts of almost every state in the U. S. are using them to relieve congested conditions.
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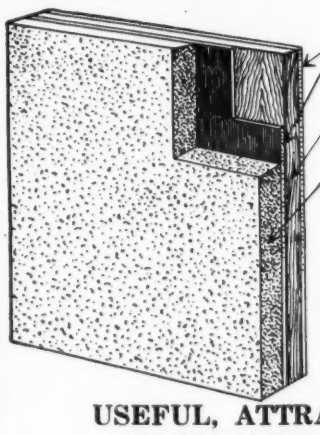
Seattle, Wash.



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THE BEST BY ANY TEST
Practical for display purposes in halls and over blackboards in schoolrooms. Easily installed in old or new buildings.
USEFUL, ATTRACTIVE and PERMANENT
We Manufacture All Sizes. Write for Sample.
STANDARD BLACKBOARD CO.
Cor. Second and Walnut Sts. ST. LOUIS, MO.

Why don't you purchase the best goods for your school? Our revolving blackboards and roll blackboards have been in constant use in all the Public Schools in New York, and the principal cities for thirty-six years, which is a sufficient guarantee. Send for our illustrated catalog and discount sheet and compare prices with other manufacturers.

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20-22-24 Vesey Street
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THE IMPROVED "CLICK SYSTEM" "MASTER SPECIAL" KEYLESS PADLOCK
An Achievement in Economy and Utility. Made up special for Lockers and Boxes, ***in any degree*** of security required.

Cut about ½ actual size.

The intense popularity of this padlock for School installations is due to its exceptional service features—economy, durability, efficiency and convenience. It is operable in the dark as readily as in the light—a feature essential to successful performance on lockers. Developed through years of intensive study of the special requirements of locker systems in schools.
Installations of "Click System" padlocks ranging from 50 to over 30,000 are achieving real Service—usually paying small initial cost in saving on lost keys. Buy experience and service—it's cheaper.
Sample and Special proposition to Operating School Officials on Request.
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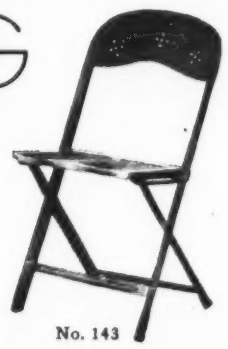
OF STEEL
Staunch, comfortable and sightly, yet low in price.
Write for full details.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For
Schools — Auditoriums — Colleges
Years of Experienced and efficient methods are at your command.
Full particulars will be gladly sent you.
Draperies — Scenery — Rigging
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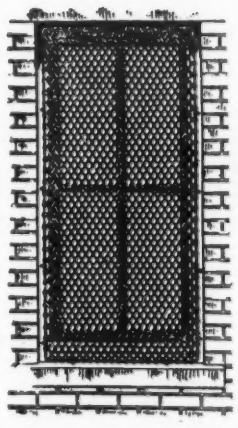

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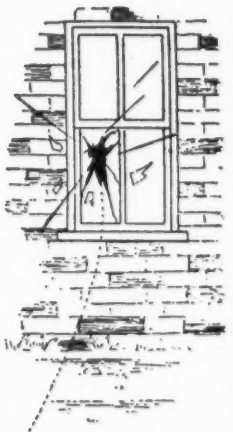

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For Professional Teacher Placement Service

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74 Chapel Street, Albany, N. Y. Est. 1885
Provides Schools and Colleges with Competent Teachers
Assists Teachers in Securing Positions.
Willard W. Andrews, President — F. Wayland Bailey, Secretary

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Efficient, professional, placement service for TEACHERS and SCHOOL OFFICIALS
No advance fee — No charge to school officials

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Branch Office
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Bryant Teachers Bureau, Inc.
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Placed teachers in twenty-six different states last year.
Twenty years experience. Write for information

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36 years of successful experience in teacher placement work
Prompt, Efficient and Reliable Service
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E. T. HOUSH, Manager
ANNA ALLEE, Assistant Manager

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Our business is done by *recommendation* in answer to *direct calls* from employers

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308 Peoples Savings Bank Bldg.
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Situated in the heart of the land of opportunity for teachers.
H. A. Mitchell, Proprietor

Schermerhorn Teachers' Agency
Established 1855
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Branch Offices: 1086 Union Trust Bldg., Pittsburgh, Pa. 1836 Euclid Ave., Cleveland, Ohio.
A Superior Agency for Superior People. We Register Only Reliable Candidates. Services Free to School Officials.

"Distinguished Personnel Service"
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FLATIRON BUILDING NEW YORK CITY
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SIX OFFICES—One Registration for ALL

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26th Year
State licensed and regulated
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Southern Teachers' Agency
Columbia Chattanooga Richmond Louisville Memphis
Continuous registration in four offices
No advance fees
Covers Middle Atlantic, South and Middle West

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They are storm and lightning proof, smooth and straight, last a lifetime, cost less than wood poles.

Our flag poles are constructed of steel pipe sections, telescoping into each other and held in place with steel pins, thereby making a tight and rigid joint.

Erection is very simple, and with the full directions furnished by us anyone can do it.

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CURTAIN CARRIER
for
Schools and Theatres
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School Auditoriums in the City of Chicago use Our Curtain Carrier
Write for Descriptive Folder Today
PERKINS CURTAIN CARRIER CO.
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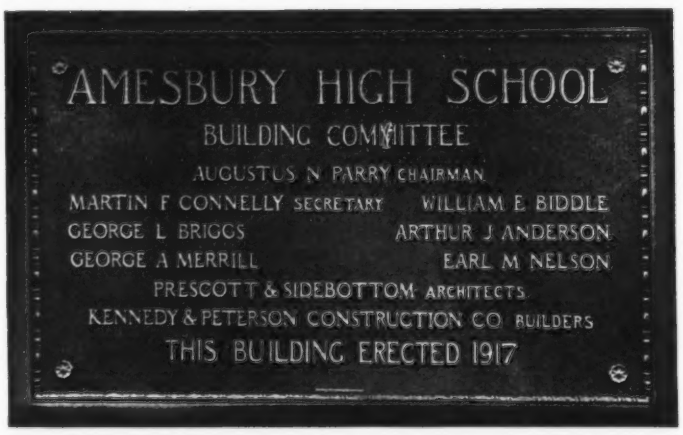

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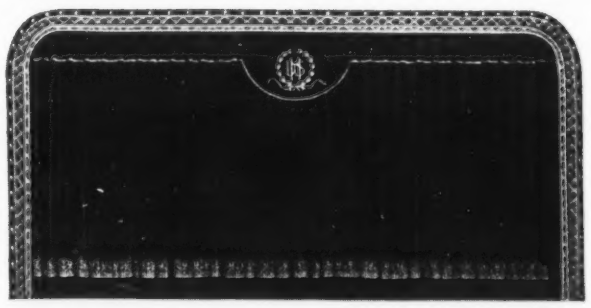

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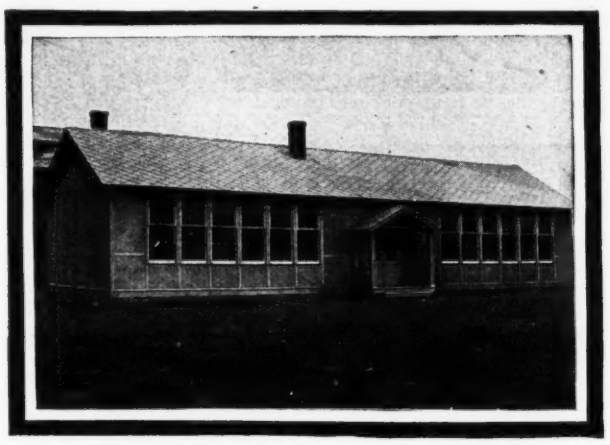

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Placed on the scales of sound business sense, Ambler Asbestos school-houses will weigh up to your highest expectations. If you are contemplating added school-room facilities, they are the answer to the important questions of fire-safety, ventilation, lighting, and heating. But, that is not all. No building offering so many advantages and such an attractive architectural design can be found in anywhere near the Ambler price range. Prompt delivery is assured—and erection is rapid and simple.

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FIREPROOF ASBESTOS SCHOOLHOUSES

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Potter Fire Escapes have been used in actual fires

80 children were on the second floor of a brick school at Newcastle, Nebr. The building was quickly destroyed, leaving only the bare walls standing. They all left the building by the Potter escape without a single accident or mishap. When the new school was built, it was of course Potter equipped.

Panics, which are more to be dreaded than fires, cannot happen, as fire drills are practiced on the Fire Escapes. There is no danger of crowding, the children becoming frightened into jumping or falling by accident, as is possible with other types.

Write for details and specifications.

42 states now have schools safe in case of fire

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The only Fire Escape with Service Records approved by the Underwriters' Laboratories.

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The Famous Brother Jonathan Bond
125 of Each in Box

$5.00 POSTPAID

Limited to three lines small Gothic type

Send remittance with order

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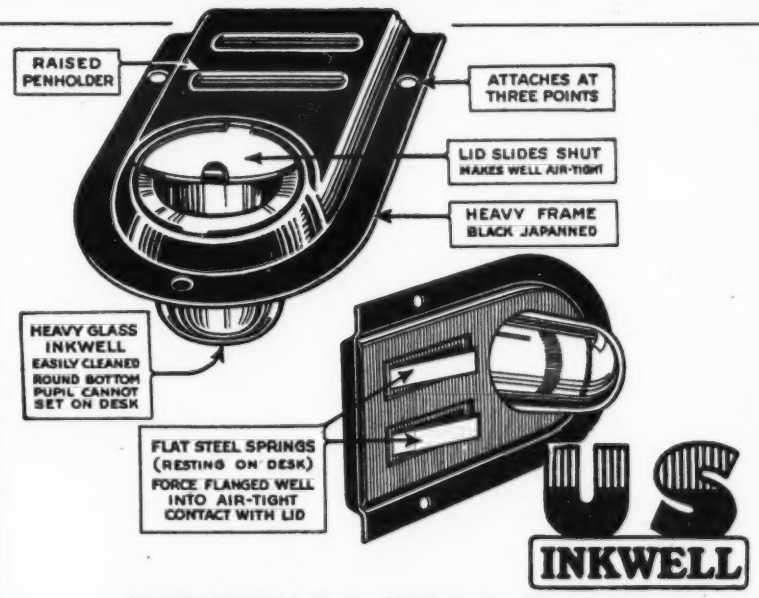

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HUNDREDS more school boards every year are standardizing on U. S. Inkwells for replacements as well as standard equipment. They know from experience that this inkwell costs little, works well, and outlasts two or more ordinary inkwells.

The U. S. Inkwell is dustproof and noiseless. It does not tempt pupils to waste time.

U. S. Inkwells can pass your most rigid examination. Check the answers to these questions:

1. ***Is it easy to install?***
   Yes, just drive in three tacks.
2. ***Will it fit our desks?***
   Yes, it fits desks of any size. (Made in two sizes—Sr., Jr.)
3. ***Is it quiet?***
   Yes, the lid does not rattle nor creak.
4. ***Is it economical?***
   Yes, because of low purchase cost and unusually long life.
5. ***Has it any special advantages?***
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U. S. Inkwells are made and furnished with two size wells, one twice larger than the other. Write for samples of each so that you can see why it is much worth while to specify U. S. Inkwells—and determine which size best meets the needs of your school. You can get U. S. Inkwells from any school supply jobber or direct from our factory. Write today for prices and samples.

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C. E. Goodell, President and General Manager
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Associated with E. O. Fisk Agencies
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SINCE 1917 we have endeavored to render efficient service in filling grade, high school and college vacancies; also administrative positions. Vacancies from any state appreciated. Sincerely, H. D. Yates, Mgr.

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Still under same active management. Best Schools and Colleges permanent clients. Best qualified men and women on our available list. Prompt service.

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DO YOU NEED PROGRESSIVE TEACHERS
who have the capacity and the will to promote the interests of your school? :: :: Communicate at once when you have vacancies.
ALLIED PROFESSIONAL BUREAUS
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Worthwhile opportunities for able teachers.
CLARA I. BINNING, Manager.
For many years familiar with placement problems.

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COLLEGE GRADUATES recommended exclusively —except in vocational fields. No elementary school position. Any subject from high school up. Leading bureau for teachers of Commercial, Industrial, and Physical Education. 26th year. Covers all states. Tell us your needs.
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The rate for Classified Advertisements is 10 cents per word per insertion, payable in advance. Forms close the 15th preceding the date of issue.

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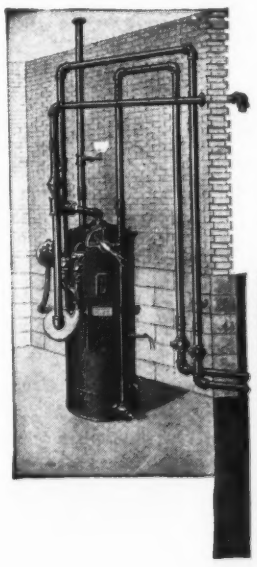

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Requires No Attention
Write to us for list of colleges and high schools using our machine. Illustrated Catalogue Will Be Sent on Request.
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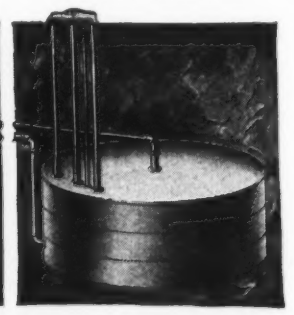

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Optional Features

VITEK Stools are made in three and four legged styles. With or without comfortable back rest and adjustable foot rest. Choice of 20 models! Swivel attachment at small extra cost. Send for catalog!

Here's just the seating equipment every school needs! VITEK All-Steel Stools are automatic adjustable. Simply lift up on the seat and the stool locks at the desired height!

Unrivaled for use in laboratories, art and mechanical drawing classes, cafeterias, and manual training rooms.

Enables students to attain correct posture and therefore added efficiency. Places them in front of their work at the correct height. Attractive.

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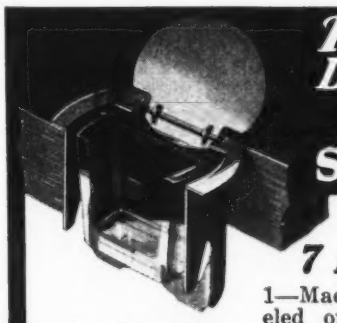

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They Possess 7 Definite Superiorities

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-the national wastebasket

School Board Journal
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(See Schoolhouse Architects' Directory)

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BUSES
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Sani Products Co., The
Standard Gas Equipment Corp.
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Weber Costello Company

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Welch Mfg. Co., W. M.

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Midland Chemical Laboratories
Oakite Products, Inc.

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Hillyard Chemical Company
Huntington Laboratories, Inc., The
Midland Chemical Laboratories

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Peterson & Co., Leonard
Pick-Barth Co., Inc., Albert
Sheldon & Co., E. H.
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Van Range Co., John
Welch Manufacturing Company, W. M.

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Armco Culvert Mfrs. Association

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Christiansen, C.
Kewaunee Mfg. Company
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Sheldon & Co., E. H.
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Clow & Sons, James B.
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Nelson Mfg. Company, N. O.
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Ditto, Incorporated

ELECTRICAL EQUIPMENT
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Cleveland Range Company, The

ERASERS
Beckley-Cardy Company
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Rowles Co., E. W. A.
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FIREPROOFING MATERIALS
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FLAGS
Annin & Co.

FLAG POLES
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Congoleum-Nairn, Inc.
Durafiex Co., The
Heywood-Wakefield Co.
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FLOORING
Carter Bloxonend Flooring Co.
Congoleum-Nairn, Inc.
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Maple Flooring Mfrs. Association
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FLOORING—COMPOSITION
Congoleum-Nairn, Inc.
Durafiex Co., The
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FLOOR TILES
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FLOOR TREATMENTS
Continental Chemical Corporation
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Midland Chemical Laboratories

FLOOR TREATING COMPOUNDS
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FLUSH VALVES
Bowlus Mfg. Company, The
Clow & Sons, James B.

FOLDING CHAIRS
Brunswick Seating Works
Clarin Mfg. Company
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FOLDING PARTITIONS
Hamlin, Irving
Richards-Wilcox Mfg. Co.
Horn Folding Partition Co., Paul
Wilson Corp., Jas. G.

FURNITURE
Algoma Wood Products Co.
American Seating Co.
Arlington Seating Company
Beckley-Cardy Company
Brunswick Seating Works, Inc.
Cleveland Range Company, The
Columbia School Supply Company
Heywood-Wakefield Co.
Imperial Desk Company
Kewaunee Mfg. Company
Kimball Company, W. W.
Kundtz Company, The Theo.
Maple City Stamping Company
National School Equipment Co.
Peabody Seating Co.
Remington-Rand Business Service, Inc.
Rowles Co., E. W. A.
Royal Metal Mfg. Co.
Stakmore Company
Standard School Equipment Co.
Steel Furniture Company
Tell City Chair Company
Wark-Beacon Steel Furniture Co.
Welch Manufacturing Company, W. M.

FURNITURE BRACES
Wittliff Furniture Brace Co.

GAS—NATURAL
Skelly Oil Company

GAS MACHINES
Matthews Gas Machine Co.

GLASS
Libbey-Owens Glass Co.
Manufacturers Glass Company

GLOBES
Beckley-Cardy Company
Rand, McNally & Company
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Pittsburgh-Des Moines Steel Co.
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GYMNASIUM APPARATUS
Chicago Gymnasium Equipment Co.
Medart Mfg. Co., Fred
Narragansett Machine Company

GYMNASIUM FLOORING
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HAIR DRIER
Chicago Hardware Foundry Co.
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HEATING SYSTEMS
American Blower Company
Buckeye Blower Co.
Clow & Sons, Jas. B. ("Gasteam")
Crane Company
Dunham Company, C. A.
Heggie Simplex Boiler Company
Nelson Corp., The Herman
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HYDRANTS
Murdock Mfg. & Supply Co.

INKS
American Crayon Company
Sanford Mfg. Co.

INKWELLS
Sengbusch Self-Closing Inkstand Co.
Squires Inkwell Company
Tannewitz Works, The
U. S. Inkwell Company

JANITORS' SUPPLIES
Continental Chemical Corporation
Dougherty & Sons, Inc., W. F.
Huntington Laboratories, Inc., The
Midland Chemical Laboratories
Milwaukee Dustless Brush Co.
Oakite Products, Inc.
Pick-Barth Co., Inc., Albert

LABORATORY EQUIPMENT
Knott Apparatus Co., L. E.
Leitz, Inc., E.
Standard Electric Time Company
Welch Manufacturing Company, W. M.

LABORATORY FURNITURE
Alberene Stone Company
Columbia School Supply Company
Kewaunee Mfg. Company
Kimball Company, W. W.
Peterson & Co., Leonard
Sheldon & Company, E. H.
Welch Manufacturing Company, W. M.

LADDERS
Dayton Safety Ladder Co., The

LAWN MOWERS
Coldwell Lawn Mower Company

LAUNDRY MACHINERY
Troy Laundry Machinery Co.

LIBRARY FURNITURE
Demco Library Supplies
Gaylord Brothers
Kimball Company, W. W.
Peterson & Company, Leonard
Remington-Rand Business Service, Inc.
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Demco Library Supplies
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LIGHTING FIXTURES
Belson Mfg. Company
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LINOLEUMS
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LIQUID FLOOR HARDENER
Sonneborn Sons, L.

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Continental Chemical Corporation
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Berger Manufacturing Company
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Medart Mfg. Co., Fred
Narragansett Machine Company
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LOCKS—KEYLESS
Dudley Lock Corporation, The
Miller Keyless Lock Co., J. B.

LUMBER
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MAPS
Beckley-Cardy Company
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MEMORIAL TABLETS
Russell & Sons Co., Albert

METAL BLACKBOARD TRIM
Dudfield Manufacturing Company
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Leitz, Inc., E.
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(Continued on Page 152)

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(Continued from Page 150)

PAPER
American Crayon Company
Beckley-Cardy Company

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American Crayon Company
Bradley Company, Milton

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American Crayon Company

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Automatic Pencil Sharpener Co.

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Welch Manufacturing Company, W. M.

TABLETS—BRONZE
Russell & Sons Co., Albert

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Natl. Association of Teacher Agencies
Teacher Agencies Directory

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Smith & Corona Typewriters Inc., L C
Underwood Typewriter Company

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Sturtevant Co., B. F.

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Dunham Company, C. A.
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Clow & Sons, James B.
Crane Company

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Buckeye Blower Company
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Richards-Wilcox Mfg. Co.
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Wallace & Co., J. D.
Welch Manufacturing Company, W. M.

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Evans, W. L.
K-M Supply Company
Progressive School Equipment Mfg. Co., The
Wilson Corp., Jas. G.

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WASTE RECEPTACLES
Solar-Sturges Mfg. Co.

WATER CLOSETS
Bowlus Manufacturing Co., The
Vogel Co., Joseph A.

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American Crayon Company
Bradley Company, Milton

WATER PURIFIERS
Clow & Sons, Jas. B. (R. U. V.)
Wallace & Tiernan, Inc.

WATERPROOFING
Truscon Steel Company

WAX CRAYONS
Bradley Company, Milton

WEATHERSTRIPS
Athey Company, The

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Detroit Steel Products Company
North Western Steel Products Co.
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Williams Pivot Sash Company

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Williams Pivot Sash Company

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American Fence Construction Co.
Badger Wire & Iron Works
Logan Co.
North Western Steel Products Company
Stewart Iron Works Co., The

WINDOWS—REVERSIBLE
Austral Window Company
Detroit Steel Products Company
Williams Pivot Sash Company

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Steele Mfg. Co., Oliver C.

WINDOW SHADE ROLLERS
Columbia Mills, Inc.
Hartshorn Company, Stewart
Steele Mfg. Co., Oliver C.

WINDOW SHADES
Athey Company, The
Beckley-Cardy Company
Columbia Mills, Inc.
Draper Shade Co., Luther O.
Du Pont de Nemours & Co., E. I.
Hartshorn Company, Stewart
Steele Mfg. Co., Oliver C.

WINDOWS—STEEL
Detroit Steel Products Company
Truscon Steel Company

WIRE GUARDS
Badger Wire & Iron Works
Cyclone Fence Co.
Logan Co.
Stewart Iron Works Co., The

WOODWORKING MACHINERY
Wallace & Co., J. D.

ADVERTISERS' REFERENCE INDEX

Acme Scenic Studios.....149
Adam Electric Company, Frank.....114
A. P. W. Paper Company.....3rd cover
Alberene Stone Company.....110
Alcoma Wood Products Co..... 25
American Book Company.....136
American Crayon Company.....156
American Portable House Co.....144
Anchor Post Fence Company..... 80
Annin & Co.....149
Arlington Seating Company..... 22
Armco Culvert Mfrs. Association....106
Asbestos Buildings Co.....147
Athey Company 141
Austral Window Company....4th cover

Badger Wire & Iron Works.....145
Beck & Sons Co., The Wm.....146
Bell & Howell Company..... 85
Belson Manufacturing Co.....142
Berger Mfg. Company.....103
Biefeld & Company, Otto.....146
Binney & Smith Company.....138
Bowlus Mfg. Company, The.....128
Bradley Company, Milton.....135
Brown Company, The.....153
Bruce Publishing Company...142 & 151
Brunswick Seating Works, Inc..... 27
Buckeye Blower Co.....125

Cannon Printing Company.....147
Carter Bloxonend Flooring Co..... 9
Celotex Company, The.....141
Century Brass Works, Inc.....126
Champion Dish Washing Mach. Co..111
Chicago Gymnasium Equip. Co.....126
Chicago Hardware Foundry Co.....109
Chicago Studios, Inc.....138
Christiansen, C..... 20
Circle A Products Corp.....84 & 140
Clarin Manufacturing Co..... 27
Clarke Sanding Machine Co.....132
Classified Wants.....148
Cleveland Range Company, The.....141
Clow & Sons, James B.....117
Coldwell Lawn Mower Company.... 10
Columbia Mills, Inc..... 11
Columbia School Supply Co..... 23
Congoleum-Nairn, Inc..... 63
Continental Chemical Corp.....127
Crane Co.....122
Cyclone Fence Company..... 75

Dahlstrom Metallic Door Co..... 67
Dayton Safety Ladder Co., The....131
Demco Library Supplies.....138
Detroit Steel Products Co..... 66
DeVilbiss Company, The.....114
Dougherty & Sons, Inc., W. F.....143
Draper Shade Co., Luther O.....140
Dudley Lock Corporation, The.....142
Dunham Company, C. A.....118
Du Pont de Nemours & Co., E. I..137
Durabilt Steel Locker Co.....101

Evans, W. L.....142

Finnell System, Inc..... 12
Fremont Metal Body Co., The..... 99

Gillis & Geoghegan, The.....105
Gleason-Tiebout Glass Co..... 73

Hamlin, Irving.....133
Harris Brothers Co.....133
Hartshorn Company, Stewart..... 98
Heggie Simplex Boiler Co..... 7
Heywood-Wakefield Co..... 89
Hill-Standard Company.....107
Hoffmann & Billings Mfg. Co.....126
Holden Patent Book Cover Co..... 91
Holmes Projector Company.....143
Holophane Company, Inc..... 79
Home-Talkie Machine Corporation.. 87
Huntington Laboratories, Inc.. The.120

Iroquois Publishing Company.....138

Johnson Service Company..... 4

Kewanee Boiler Corp..... 3
Kewaunee Mfg. Company..... 90
Kimball Company, W. W.....96
K-M Supply Company.....86 & 94
Kunditz Co., The Theodor..... 17

Laidlaw Brothers.....137
Leavitt Mfg. Company.....106
Leitz, Inc., E..... 90
Libbey-Owens Glass Company..... 64
Logan Company.....114
Lyon Metal Products, Inc..... 97

Maple City Stamping Company..... 18
Maple Flooring Mfrs. Association... 77
Matthews Gas Machine Co.....148
Medart Mfg. Company, Fred.....108
Merriam Co., G. & C.....137
Midland Chemical Laboratories, Inc. 2
Miller Company, The..... 65
Miller Keyless Lock Co., The J. B..144
Milwaukee Dustless Brush Co.....114
Mitchell Mfg. Company.....130
Mutschler Bros. Company..... 20

Narragansett Machine Co.....130
Nash Engineering Co..... 28
National Crayon Company..... 26
Natl Association of Teacher Agencies.146
National School Equipment Co..... 19
National Theatre Supply Company.. 98
National Vulcanized Fibre Co.....149
Natural Slate Blackboard Co..... 1
Nelson Corp., The Herman.....Insert
Nelson Mfg. Co., N. O.....121
Newman Manufacturing Co., The...145
N. Y. Silicate Book Slate Co.....144
North Electric Mfg. Company, The.. 80
North Western Steel Products Co.. 90
Norton Company..... 76
Novelty Scenic Studios.....130

Oakite Products, Inc.....124

Pacific Steel Boiler Corp. of Illinois 5
Paddock Cork Company..... 26
Peabody Seating Co., The..... 18
Peerless Unit Ventilation Co.....119
Perkins Curtain Carrier Company...146
Peterson & Co., Leonard..... 88
Pittsburgh-Des Moines Steel Co.... 74
Potter Manufacturing Corp.....147
Premier Engraving Co.....145

Professional School Service Directory.144
Progressive School Equipment Mfg. Co., The.....139

Remington-Rand Business Service, Inc. 155
Roddis Lumber & Veneer Co..... 69
Rowles Co., E. W. A..... 24
Royal Metal Mfg. Company.....144
Rubberstone Corporation..... 13
Rundle-Spence Mfg. Co..... 10
Russell & Sons Co., Albert.....146

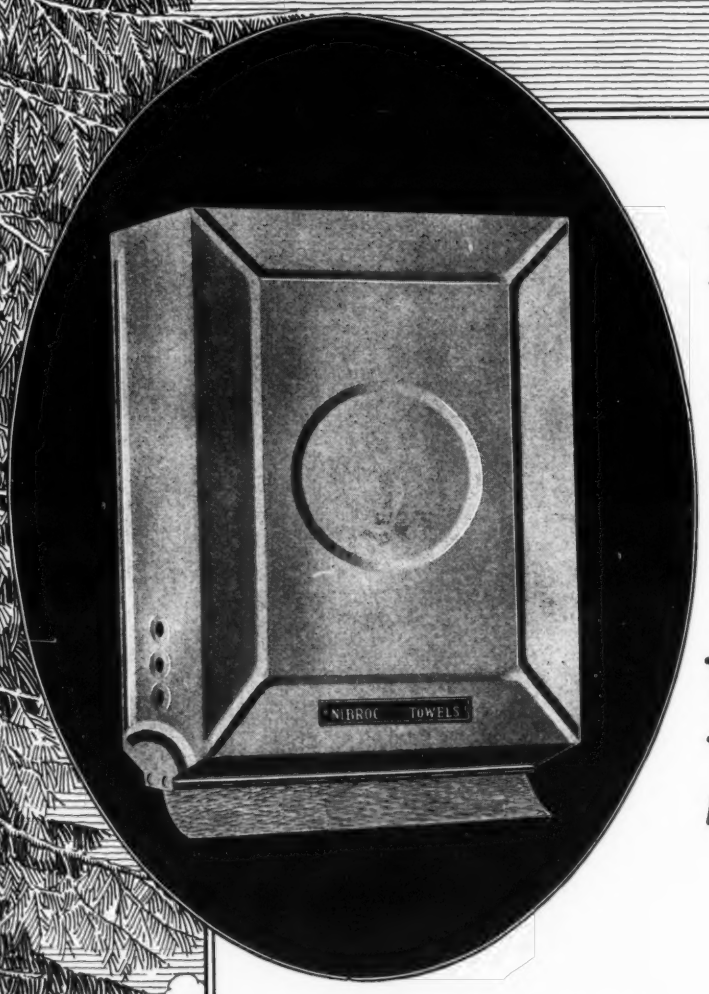
Sanford Manufacturing Company... 26
Sanymetal Products Company.....116
School Architects Directory.....14 & 15
Sengbusch Self-Closing Inkstand Co. 27
Sheldon & Company, E. H..... 92
Simon Ventilighter Company, The..141
Singer Sewing Machine Co..... 21
Smith & Corona Typewriters Inc L C.. 95
Solar-Sturges Mfg. Company.....102
Sonneborn Sons, L.....115
Standard Blackboard Co.....144
Standard Electric Time Co.. The... 30
Standard Gas Equipment Corp.....113
Standard Manufacturing Co..... 22
Standard School Equipment Co..... 20
Steele Mfg. Co., Oliver C.....133
Steffens-Amberg Company..... 8
Stewart Iron Works Co., The.....130
Sturtevant Company, B. F.....123

Tannewitz Works, The.....149
Taylor Company, Halsey W.....112
Teachers Agencies.....148
Tiffin Scenic Studios.....148
Titusville Iron Works Co , The.....129
Trans-Lux Daylight Picture Screen Corp. 143
Troy Laundry Machinery Co., Inc..120
Tucker Duck & Rubber Co..... 24
Twin City Scenic Co.....143

Underwood Typewriter Co..... 93
U. S. Gutta Percha Paint Co..... 12
U. S. Inkwell Company.....147
Universal Scenic Studio, Inc.....145
Universal Window Company..... 72

Vitek Manufacturing Co., Inc.....149
Vogel Company, Joseph A.....2nd cover
Vonnegut Hardware Co..... 6
Vortex Mfg. Co..... 70

Wallace & Tiernan, Inc..... 71
Walraven Book Cover Co., A. T....149
Wark-Beacon Steel Furniture Co.... 25
Wayne Iron Works.....126
Weis Mfg. Company, Henry.....120
Weiss & Sons, I.....144
Western Electric Company..... 83
White Sewing Machine Co..... 16
Williams Iron Works..... 81
Williams Pivot Sash Co., The..... 68
Wilson Corp., Jas. G..... 78
Winston Co., The John C.....136
Wittliff Furniture Brace Co.....100
Wooster Products, Inc..... 8



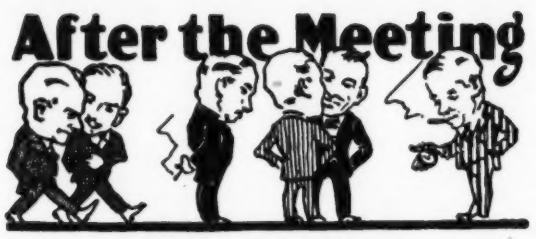
Keep your
school health
standards high
with

NIBROC TOWELS

THEY encourage boys and girls to wash more often. NIBROCS are highly absorbent. One NIBROC dries the hands thoroughly, leaving them soft and clean. They contain no chemicals to injure the skin, and prevent the spreading of infectious diseases often found on the common towel. ¶ NIBROCS are lintless. They are served individually, fresh and clean from a dust-proof, key-locked, steel cabinet which is loaned to customers.

Write now for a generous sample of NIBROCS

BROWN Company B Co. FOUNDED 1852 *Portland, Maine*



TIMES HAVE CHANGED
Modern Letters of Excuse

"Please excuse Johnny from attending school this week. He is participating in the National Amateur Golf Tournament."

"Eleanore's absence from classes Thursday afternoon was unavoidable, since she had to read some of her latest poems at the Episcopal Ladies' Guild."

"Dorothy requests me to ask you to excuse her this week; she has been chosen to try out for the Olympic swimming team."

"Michael was absent from school this morning through no fault of his own. You kept him so long after school yesterday that he was arrested for speeding home in his car."

HE WANTED TO KNOW

The principal of a certain school was in the habit of repeating questions and announcements which he made to the students at the morning assembly. Few boys in his school could excuse themselves on the plea that they had not heard or understood any general announcement.

During the past winter an evening lecture course for the parent-teacher association brought large crowds to the school. The principal used his best school manner in dealing with audiences of parents and on one occasion asked slowly: "Who was Ivan the Terrible?"

He repeated the question several times, still more slowly, "Who was Ivan the Terrible?"

To his embarrassment, a tipsy man in the last row got up and remarked: "Aw right, Professor, I'll bite, I'll bite. Who was he?"

Erudition Buried

The professor had been invited to lay the corner stone of a rural school and had just performed his duty. The crowd awaited his speech.

"Heavens! What can I do?" wailed the professor. "I've laid the cornerstone on top of my manuscript."

Why Try the Uncertain?

Mr. S. A. Challman, state director of school buildings for Minnesota is an ardent proponent of tested and proved devices for school buildings. When a school board wants to make an experiment with a cheap or untried type of construction or equipment Mr. Challman is fond of telling this story:

"John," said the doctor, "take these pills twice a day. If they don't cure you in a week, come back and I'll give you something that will."

"Say, Doctor," answered John, "wouldn't we save lots of time if you gave me the something right away?'

What Is Genius?

Men give me credit for some genius. All the genius I have lies in this: When I have a subject in hand, I study it profoundly. Day and night it is before me. My mind becomes pervaded with it. Then the effort which I have made is what people are pleased to call the fruit of genius. It is the fruit of labor and thought.—Alexander Hamilton.

His Handicap

"Children," said a school teacher, "be diligent and steadfast and you will succeed in life. Take the case of George Washington. Do you remember me telling you of the difficulty the Father of your Country had to contend with?"

"Yes'm," said little Willie McGinnis. "He couldn't tell a lie."

Browning and Beer

Isabel McAllister, in a recent biography of Alfred Gilbert, the famous and somewhat eccentric English sculptor, tells how Gilbert when a young man made an enemy for life of Robert Browning:

Mrs. Green, widow of the English historian, invited young Gilbert and Browning, who was then at the height of his fame, to a little dinner at her house in Kensington Square. The party consisted of four persons, Mrs. Green's brother acting as host. When, after dessert, she retired to the drawing room, her brother took her place at the head of the table and invited Browning to take a glass of Port. He then asked young Gilbert what he drank, to which Gilbert replied that he generally drank beer when he was at home. Thereupon Browning put on a schoolmasterly manner and leaning forward said very impressively, "Young man, they who drink beer, think beer."

Gilbert, nettled by Browning's superior air, said very quietly, "What a pity, Sir, that you do not drink more beer."

And Browning never forgave the retort.

The Right Use

Dr. A. E. Winship, the veteran educational editor is the kindliest of men. The story is told that one day his patience snapped. After reading a number of unacceptable manuscripts he found one with the following letter attached:

"Dear Dr. Winship: Will you please read the inclosed. If not acceptable return it to me as soon as possible, as I have other irons in the fire."

Dear Miss Blank: Here is the article. Remove the irons from the fire and insert the article.

Honest Ma

A New York City school teacher tells about a little boy whose coat was so difficult to fasten that she went to his assistance. As she tugged at the hook, she asked: "Did your mother hook this coat for you?"

"No," was the reply, "she bought it."—Ex.

She: "How did you like your college course?"

He: "The greens were in pretty poor shape, but I generally managed to get around in ninety."

BUYERS NEWS

NEW TRUSCON INTEGRAL DOORFRAME AND TRIM

The Truscon Steel Company of Youngstown, Ohio, has announced a new integral doorframe and trim, which combines doorframe, bucks, lintels, jamb, casing, doorstop, transom bar, and transom casing in one piece, which may be quickly erected as an integral part of the wall.

The Truscon integral doorframe is fabricated from standardized steel parts for both single and double openings of standard dimensions, and each frame is securely anchored to the wall and rough floor. It will be effective in saving time and labor costs and in the economical use of building materials.

The Truscon doorframe offers many advantages to the school architect and contractor, since it is made to fit any size of opening, and is firmly anchored to the wall and becomes an integral part of the wall construction. Constructed of steel, it is sanitary, fireproof, and insures long life.

A pamphlet, giving detailed drawing and complete specifications will be sent to any architect or school official upon request.

NEW DEMONSTRATION UNITS FOR GENERAL SCIENCE

A number of textbooks have been issued from time to time, dealing with the subject of general science in the elementary schools. Such textbooks have generally been prepared by teachers with considerable experience, who have taken into account the everyday life of the pupil and who have sought to promote the teaching of science in the schools.

A recent contribution to the subject of science is the Lunt and Haley units for general science, (L. E. Knott Apparatus Company) which consists of 22 individual, self-contained, demonstration units. Each of these units provides everything needed to perform from fifteen to twenty unusual experiments covering completely one major topic. The units offer a wide latitude of choice and enable the teacher to select just the equipment needed to perform all the demonstrations in his particular science course. Among the subjects listed as unit courses are breathing and ventilation; fuel and fire kindling; heat expansion and conduction; temperature, air pressure, and humidity; hydrogen and composition of water; food, diet, and digestion; magnets and magnetism; electric bells and bell wiring; cells, storage battery, and electroplating; electric motor and power; current measurement and control.

The unit courses have been enthusiastically received by science teachers in schools, and it is certain that within a few years practically every junior school in the country will organize its general science equipment on the unit plan.

A complete list of the experiments and demonstrations provided for in each unit will be sent to any science teacher, or school official who addresses the L. E. Knott Apparatus Company, at Cambridge, Mass.

NEW SCHOOL SEATING CATALOG

The National School Equipment Company of Port Washington, Wis., has issued a new catalog of 32 pages, illustrating and describing a complete line of school seating, including semi-steel stationary and adjustable desks, semi-steel combination desks, pedestal desks, separate adjustable desks and chairs, commercial desks and chairs, movable-chair desks, recitation-room chairs and tablet-arm chairs, pedestal tablet-arm chairs, office, kindergarten, and auditorium chairs, and assembly-room chairs. The firm also manufactures a line of office desks, teachers' desks, commercial desks, and office tables.

The National line of school seating equipment is the development of many years of experience in the building of schoolroom equipment, and the products of the firm have been improved and perfected to meet the highest standards of correct modern school equipment.

All items in the National line are finished regularly in the National process brown finish, which produces a fadeless finish, pleasing and restful to the eye, and one which not only produces a beautiful appearance, but protects the wood from injury. This finish will not wear or rub off, is scratchproof, and is permanently waterproof.

Complete information and prices of the National line of school seating may be obtained free upon request.

NEW CATALOG ON DRINKING FOUNTAINS

The N. O. Nelson Mfg. Company of St. Louis, Mo., has just issued a new catalog of sanitary drinking fountains and attachments, which devotes 23 pages to the illustration and description of a wide line of drinking fountains.

The catalog lists vitreous china fountains, self-closing fountain valves with china jets, vitreous china continuous-flow drinking fountains for any service, and Nonco sanitary fountain with self-closing level handle faucet. There are also a few types of the ice-cooled sanitary drinking fountain, with vitreous china fountain bowl, concealed bracket, lever handle, and self-closing fountain valve, with waste pipe and concealed trap.

Complete information and prices of the various types of drinking fountains manufactured by this firm may be obtained free upon request.

MR. FAIRHURST JOINS PARK, WINTON & TRUE COMPANY

Park, Winton & True Company of Addison, N. Y., manufacturers of fine millwork, have announced the association of Mr. John T. Fairhurst, inventor of partitions and folding-door wardrobes, with their organization.

The firm has established executive offices at 101 Park Avenue, New York City.

MIDWEST COMPANY INCORPORATED

The Midwest Air Filters, Inc., and the Midwest Steel & Supply Company, Inc., on November 1, were consolidated under the firm name of the Midwest Manufacturing Company. This is a change in name only and does not affect the present management or policy of the company. The manufacture and sale of the Midwest products will be continued as previously under the new corporation.

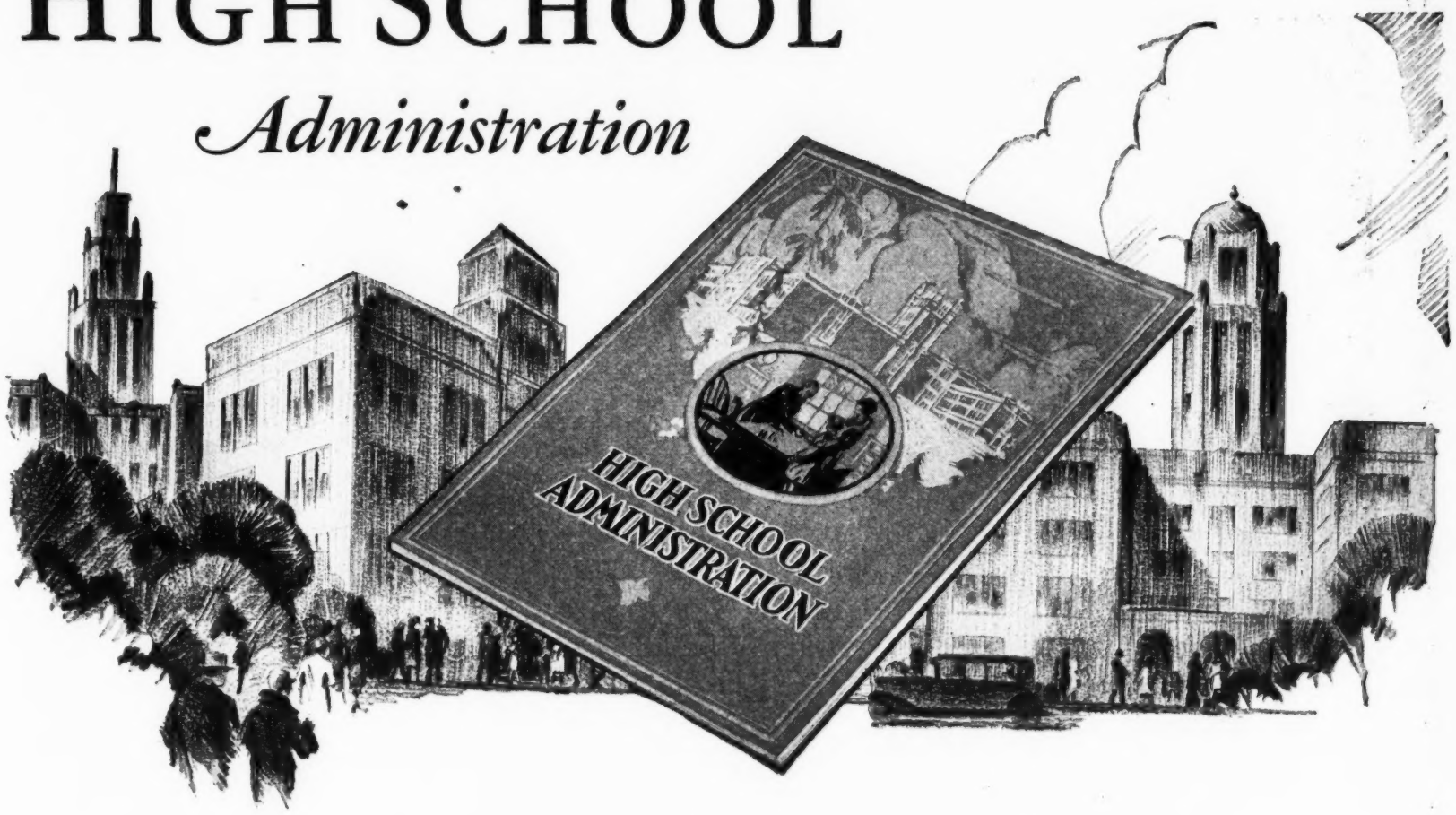
HARRIS UNIT-BUILT SCHOOL BUILDINGS

Harris Brothers Company, Chicago, Ill., have issued a 23-page booklet, illustrating and describing the new Harris Unit-Built School Buildings. These unit buildings meet all the requirements for beauty of design, strong construction, durability, and economy, and are intended to solve the problem of crowded classrooms in rapidly-growing school districts.

These buildings are made in sizes for from 40 to 400 pupils. They are arranged to give the best light and sunshine, and offer perfect ventilation. The walls and ceilings are especially constructed for warmth in winter, and all outside doors are equipped with the latest design panic bolts as an additional precaution to safeguard the children. All buildings are made in three different style of outside wall finishes and are completed to the smallest detail. The firm has prepared complete specifications and details of construction for the use of architects and school authorities who are confronted with the problem of erecting portable buildings.

Complete information about these portable buildings will be sent to any architect or school official upon request.

HIGH SCHOOL
Administration



Subjects Covered

Registration Procedure
Schedule Making
Report Keeping
Record Protection
Attendance Problems
Mid-Semester Reports
High School Libraries
Bulletins
Files
Athletic Records
Textbooks and tuition and 25 other important subjects

The Business Side of E*ducation* in a Booklet . . . FREE

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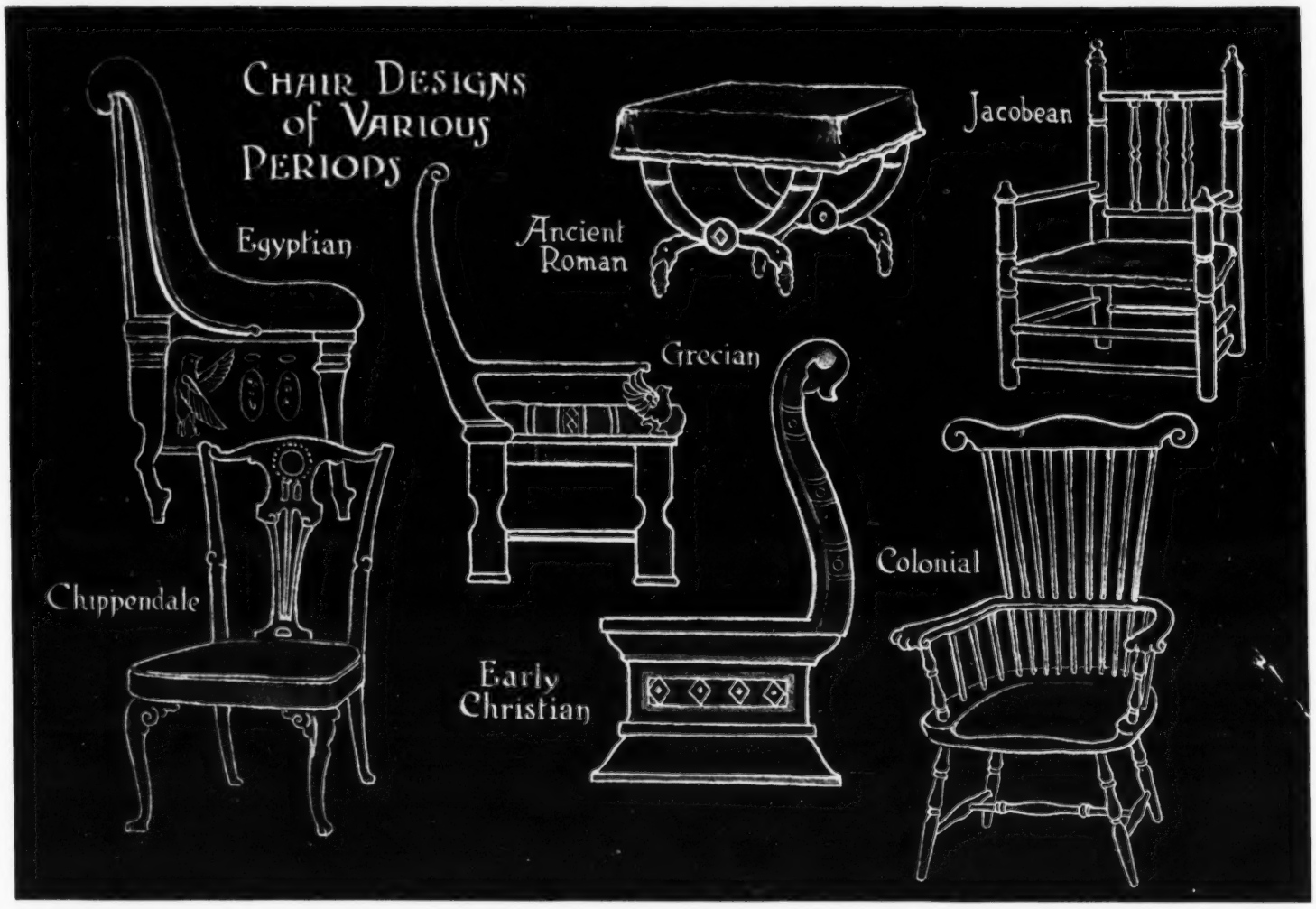

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NLIWC TOILET PAPER ONLIWON TOILET PAPER ONLIWON TOILET PAPER ONLIWON TOILET PAPER

. . . "*and* a saving with Onliwon not anticipated"

ONLIWON TOILET PAPER ONLIWON TOILET PAPER ONLIWON TOILET PAPER ONLIWON TOILET PAPER

"THE Onliwon system effected a great economy in consumption of toilet paper from the beginning," the purchasing agent of a Mid-Western telephone company writes. "Moreover, a big saving not anticipated was in maintenance of plumbing, formerly frequently clogged by the roll paper." A hotel cut this item more than half. A small public building figures the reduced cost with Onliwon at $300 a year. In a large school the expense under this system runs just four cents per pupil per year.

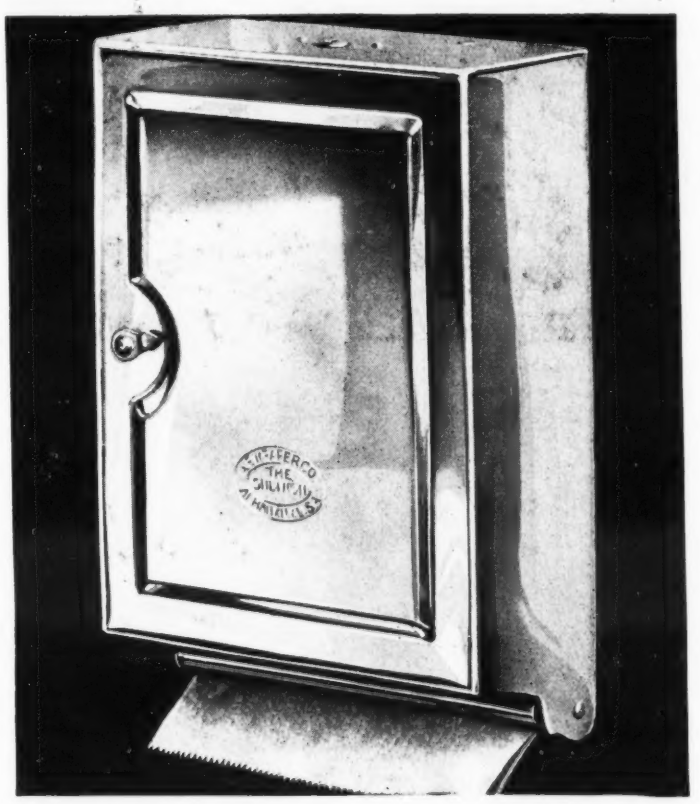
For every type of building, superintendents report a saving with Onliwon of from 10 to 100%.

Why Onliwon saves money

The very nature of Onliwon tissue, strong, smooth and efficient, makes for economy. Users unconsciously realize that fewer sheets are necessary.

Onliwon cabinets dispense only two sheets at a time—consistently. There is no theft or waste. Either rolls or ordinary flat sheets are illogical. Often great quantities are strewn about the toilet and thrown into the bowl.

Onliwon cabinets furnish you with the final safeguard in your job of cutting down this item in your budget.



Onliwon toilet paper cabinet in pressed steel, in nickel finish, Crodon plated, with lock and contents indicator. Also furnished in a variety of other models.

Inferior service, sold on the basis of first cost, records show, is invariably more expensive. Let us show you how Onliwon can save *you* money. Just mail the coupon.

THE ORIGINAL

ONLIWON

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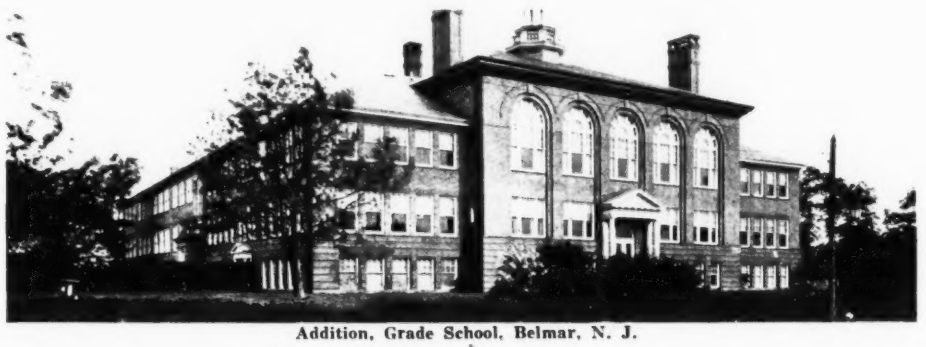
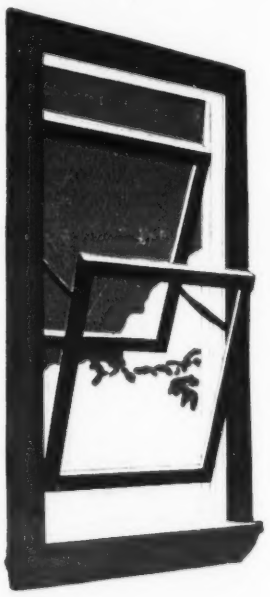
STANDARD SCHOOL EQUIPMEI

Schools of John Noble Pierson and Son Equipped With AUSTRAL WINDOWS

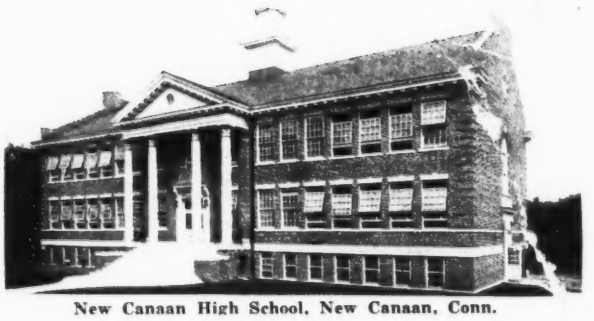


Addition, Grade School, Belmar, N. J.

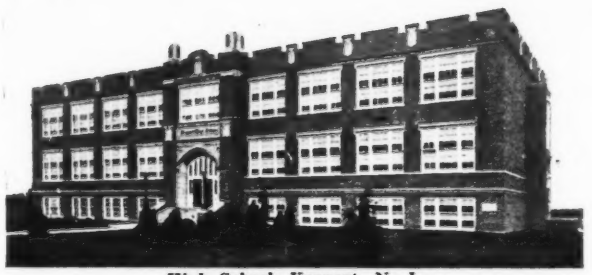
Addition, High School, North Plainfield, N. J.



Ventilation Without Draft

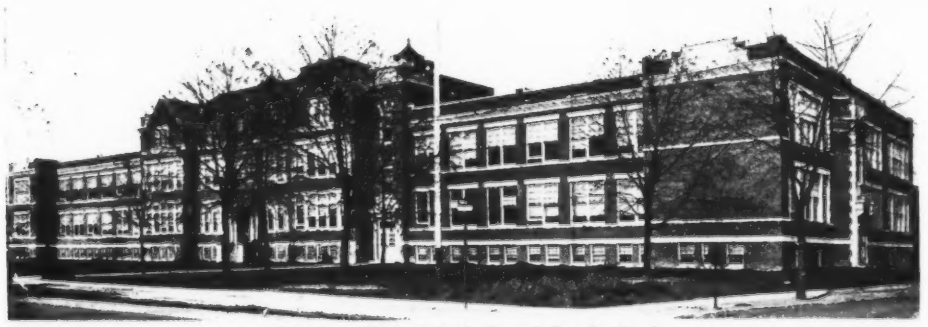


New Canaan High School, New Canaan, Conn.



High School, Keyport, N. J.

High School, South Amboy, N. J.



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